

CENSUS  
HD  
9715  
.U52  
U52  
1987A  
pt.24  
c.1

987

# Census of Construction Industries

---

CC87-I-24

INDUSTRY SERIES

## Wrecking and Demolition Work Special Trade Contractors

Industry 1795

---



---

U.S. Department of Commerce  
BUREAU OF THE CENSUS

Bureau of the Census  
Library

# ACKNOWLEDGMENTS

Many persons participated in the various activities of the 1987 Census of Construction Industries.

The overall planning and review of the census operations were performed by the staff of the Office of the Assistant Director for Economic and Agriculture Censuses.

This report was prepared in the Construction Statistics Division. **Barry A. Rappaport**, Assistant Division Chief for Industry Surveys, was responsible for the overall planning, management, and coordination of the census of construction industries. Planning and implementation were under the direction of **A. William Visnansky**, Chief, Census Operations Branch, with primary staff assistance by **Juliana Van Berkum**, **Barbara J. Hadden**, **Edward R. Glover**, **Susan L. Hostetter**, **Shirley M. Baker**, and **Carolyn J. Stone**. Under the direction of **Jesse Pollock**, **Edward K. Ricketts** and **Dennis K. Duke** developed the sampling plans and variance and estimation specifications.

Systems and procedures for mailout, receipt, correspondence, data input, industry classification, other clerical processing, administrative record processing, and quality control, along with the associated electronic computer programs, were developed in the Economic Surveys Division, **W. Joel Richardson**, Chief.

Mailout preparation and receipt operations, clerical and analytical review activities, data keying, and geocoding review were performed by the staff of the Data Preparation Division, **Joseph S. Harris**, Chief.

Geographic coding procedures and associated computer programs were developed by the staff of the Geography Division, **Robert W. Marx**, Chief.

The computer processing systems were developed and coordinated in the Economic Programming Division, **Barry M. Cohen**, Chief, and **H. Ray Dennis**, Assistant Chief. **Sarah W. Baumgardner**, Chief, Construction Census Branch, was responsible for the design and implementation of the computer systems. The computer programs were prepared under the supervision of **Barbara L. Lambert**, assisted by **Herbert Isham** of the Construction Statistics Division. **Linda M. Mersh** and **James Dallmann** assisted in establishing and maintaining the production control system.

Computer processing was performed in the Computer Services Division, **Marvin D. Raines**, Chief.

Planning, design, review, and composition of report forms were performed in the Administrative Services Division, **Michael G. Garland**, Chief.

The staff of the Publications Services Division, **Walter C. Odom**, Chief, performed publication planning, design, composition, editorial review, and printing planning and procurement. **Bernadette J. Beasley** provided publication coordination and editing.

Special acknowledgment is also due the many businesses whose cooperation has contributed to the publication of these data.

If you have any questions concerning the statistics in this report, call (301) 763-7546.

# **1987**

# **Census of Construction Industries**

---

CC87-I-24

INDUSTRY SERIES

## **Wrecking and Demolition Work Special Trade Contractors**

Industry 1795

---

Issued January 1990



**U.S. Department of Commerce**  
**Robert A. Mosbacher**, Secretary  
**Thomas J. Murrin**, Deputy Secretary  
**Michael R. Darby**, Under Secretary  
for Economic Affairs

**BUREAU OF THE CENSUS**  
**Barbara Everitt Bryant**, Director

---



**BUREAU OF THE CENSUS**  
**Barbara Everitt Bryant**, Director  
**C. L. Kincannon**, Deputy Director

**Charles A. Waite**, Associate Director for  
Economic Programs  
**Roger H. Bugenhagen**, Assistant Director for  
Economic and Agriculture Censuses

**Thomas L. Mesenbourg**, Chief,  
Economic Census Staff

**CONSTRUCTION STATISTICS DIVISION**  
**Leonora M. Gross**, Chief

---

**Library of Congress Cataloging-in-Publication Data**

Census of construction industries (1987).

Industry series.

1987 census of construction industries.

Industry series.

"CC87-I-1—CC87-I-28."

"Issued September 1989—February 1990."

1. Construction industry—United States—Statistics.

2. Building trades—United States—Statistics.

I. United States. Bureau of the Census.

HD9715.U52C46 1989 338.4'7624'0973021 88-22147

---

For sale by Superintendent of Documents, U.S. Government  
Printing Office, Washington, DC 20402.



# INTRODUCTION

	Page
PURPOSE AND USES OF THE ECONOMIC CENSUSES.....	III
AUTHORITY AND SCOPE .....	III
AVAILABILITY OF THE DATA .....	III
WHAT'S NEW IN 1987 .....	III
HISTORICAL INFORMATION .....	IV
AVAILABILITY OF MORE FREQUENT ECONOMIC DATA.....	IV
SOURCES FOR MORE INFORMATION .....	IV
CENSUS OF CONSTRUCTION INDUSTRIES—SCOPE AND CLASSIFICATION.....	IV
ESTABLISHMENT BASIS OF REPORTING.....	V
SAMPLE DESIGN, ESTIMATION PROCEDURES, AND RELIABILITY OF ESTIMATES .....	VI
CENSUS REPORT FORMS .....	VIII
DATA PROCESSING .....	VIII
GEOGRAPHIC CLASSIFICATION .....	VIII
DUPLICATION IN VALUE OF CONSTRUCTION WORK .....	VIII
SPECIAL TABULATIONS.....	VIII
COMPARABILITY OF CENSUS OF CONSTRUCTION INDUSTRIES DATA WITH OTHER DATA .....	IX
ABBREVIATIONS AND SYMBOLS .....	IX

## PURPOSE AND USES OF THE ECONOMIC CENSUSES

The economic censuses are the major source of facts about the structure and functioning of the Nation's economy. They provide essential information for government, business, industry, and the general public.

*Economic censuses furnish an important part of the framework for such composite measures as the gross national product, input-output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions.*

*Policy-making agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.*

*State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.*

*Trade associations study trends in their own and competing industries, and keep their members informed of market changes.*

*Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.*

## AUTHORITY AND SCOPE

Title 13 of the United States Code (sections 131, 191, and 224) directs the Census Bureau to take the economic censuses every 5 years, covering years ending in 2 and 7. The 1987 Economic Censuses consist of the—

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1987 Census of Agriculture and 1987 Census of Governments are conducted separately.) The next economic censuses are scheduled to be taken in 1993 covering the year 1992.

## AVAILABILITY OF THE DATA

The results of each of the economic censuses are available in printed reports, for sale by the U.S. Government Printing Office, and on microfiche, computer tape, compact discs with read-only memory, and flexible diskettes, for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Census Bureau, Washington, DC 20233. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State Data Centers in every State and Business and Industry Data Centers in many States also supply economic census statistics.

## WHAT'S NEW IN 1987

Several changes have taken place for the 1987 censuses. Data will be reported on the basis of the newly revised Standard Industrial Classification (SIC) system with selected reports including "bridge tables," linking the old and new classification systems. A new set of metropolitan



areas has been adopted, and more detailed information will be available for businesses with no paid employees. For additional information on these changes, review the subsequent text.

One important change involves receipts of contractors and builders. Prior to 1987, the Census of Construction Industries collected receipts as the primary measure of construction activity. For 1987, the census collected the "value of construction work done" to better measure actual construction activity done during the year. Differences between the two concepts occur when work is done in one year and payment received either from the prior or in the succeeding year. In addition, receipts do not include work a contractor performs for its own account and use.

## **HISTORICAL INFORMATION**

The economic censuses have been taken together as an integrated program at 5-year intervals since 1967, and before that for 1963, 1958, and 1954. Prior to that time, the individual censuses were taken separately at varying intervals.

The economic censuses trace their beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for 1840 and subsequent censuses to include mining and some commercial activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 manufactures census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade, and construction industries, but it was broadened in 1933 to include some of the service trades.

The 1954 economic censuses were the first to be fully integrated—providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. These were the first censuses to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records have also been used to provide basic statistics as well for very small firms, reducing or eliminating the need to send them census questionnaires. The Enterprise Statistics Program, which publishes combined data from the economic censuses, was made possible with the implementation of the integrated census program in 1954.

The range of industries covered in the economic censuses has continued to expand. The Census of Construction Industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The Census of Transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks. New for 1987 are publications reporting on business establishments engaged in several transportation industries, paralleling the data on establishments in

other sectors. This is part of a gradual expansion in coverage of industries previously subjected to government regulation. The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic censuses in 1972 along with the Survey of Women-Owned Businesses.

Economic censuses have also been taken in Puerto Rico since 1909, in the Virgin Islands and Guam since 1958, and in the Northern Mariana Islands since 1982.

Statistical reports from the 1982 and earlier censuses provide historical figures for the study of long-term time series, and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

## **AVAILABILITY OF MORE FREQUENT ECONOMIC DATA**

While the censuses provide complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, the results of which appear in publication series such as *Current Construction Reports* (building permits, housing starts, and value of new construction put in place), *Current Business Reports* (retail and wholesale trade and service industries), the *Annual Survey of Manufactures*, *Current Industrial Reports*, and the *Quarterly Financial Report*. Most of these surveys, while providing more frequent observations, yield less kind-of-business and geographic detail than the censuses. The *County Business Patterns* program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

## **SOURCES FOR MORE INFORMATION**

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1987 Economic Censuses and Related Statistics*. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1987 Economic Censuses*. Contact Customer Services for information on availability.

## **CENSUS OF CONSTRUCTION INDUSTRIES—SCOPE AND CLASSIFICATION**

The 1987 Census of Construction Industries covers all employer establishments (establishments with payroll) primarily engaged in contract construction, construction on their own account for sale, or in subdividing real property



into lots as defined in the 1987 Standard Industrial Classification (SIC) Manual.<sup>1</sup> This industrial classification system has been developed by experts on classification in government and private industry under the guidance of the Office of Management and Budget and is in general use among government agencies and among organizations outside the government.

**Contract construction**—The SIC manual defines construction in three broad types of activity that follow:

1. **Building construction by general contractors or by operative builders**—General building contractors are primarily engaged in the construction of dwellings, office buildings, stores, farm buildings, and other building projects. Operative builders who build on their own account for sale are also included here. However, investment builders who build structures on their own account for rent are classified in Real Estate.
2. **Heavy construction general contractors**—Heavy construction general contractors are primarily engaged in the construction of highways, bridges, pipelines, sewers and water lines, marine construction, power, and petro-chemical plants and other nonbuilding construction projects. Special trade contractors are classified in heavy construction if they are specifically engaged in the following activities: grading for highway and airport runways; guardrail construction; installation of highway signs; asphalt and concrete construction of roads, highways, streets and public sidewalks; trenching, cable laying; conduit construction; underwater rock removal; pipeline wrapping; or land clearing and leveling.
3. **Construction by other special trade contractors**—These contractors include plumbers, painters, carpenters, electricians, brick layers, roofers, etc. For the most part, they perform their work at the site of construction, although they may also have shops where they perform work incidental to the job site.

General contractors in both the building and the heavy construction field usually assume responsibility for an entire construction project, but may subcontract to others all of the actual construction work or those portions of the project requiring special skills or equipment. Special trade contractors may work for general contractors, for other subcontractors, or may work directly for the owner of the property.

In addition to the industries classified in the SIC manual as Construction, this census also includes one industry

classified in the Real Estate area, SIC 6552, Land Subdividers and Developers, Except Cemeteries. These establishments are engaged in subdividing real property into lots and in developing it for sale on their own account.

Each establishment receiving a questionnaire was requested to report the percent of total dollar value of business done for each kind-of-business activity engaged in during 1987. This information was used for the computer assignment of appropriate industry classifications. During this work, various tests were also made using other data reported on the questionnaire. The proportion of construction work to total business was checked to verify that the establishment was primarily in construction. Also taken into consideration were the types of structures worked on during the year and the extent of work undertaken for other contractors.

Construction establishments often engage in various construction activities. It is necessary, however, to assign a single industry code to the establishment based on its major activity. Therefore, the statistics shown for an industry reflect not only the primary activity of the establishments in the industry, but also their secondary activities. The industry reports, however, do present data on the extent of secondary activities.

A revised edition of the SIC Manual was issued in 1987. Minor modifications were made to three industries in the construction sector: SIC 1611, Highway and Street Construction Contractors, Except Elevated Highways; SIC 1629, Heavy Construction Contractors, N.E.C.; and SIC 1771, Concrete Work Special Trade Contractors. The extent of these modifications are explained in the specific texts for those industries. "Bridge tables" are also included showing selected data tabulated using both the previous classification system and the 1987 revision.

## ESTABLISHMENT BASIS OF REPORTING

The census of construction industries is conducted on an establishment basis. A "construction establishment" is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted. With some exceptions, a relatively permanent office is one which has been established for the management of more than one project or job and which is expected to be maintained on a continuing basis. Such "establishment" activities include, but are not limited to estimating, bidding, purchasing, supervising, and operation of the actual construction work being conducted at one or more construction sites. Separate construction reports were not required for each project or construction site.

Companies with more than one construction establishment were required to submit a separate report for each such establishment operated during all or any part of 1987. The census of construction industries figures represent a summary of records for individual establishments rather than for companies. The census tabulations, therefore, differ from those prepared on a company basis.

<sup>1</sup>Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.



If an establishment engaged in construction and one or more distinctly different lines of economic activity (wholesale or retail trade, service, manufacturing, mining, etc.) at the same place of business, it was requested to file a separate report appropriate to each activity, provided that the activity was of substantial size and separate records were maintained or substantially accurate estimates could be prepared.

If a separate establishment report could not be prepared for each activity, then a construction report was requested covering all activities of that establishment providing that the 1987 value of construction work exceeded the gross receipts from each of its other activities.

Construction businesses with no payroll during 1987 (nonemployers) were not required to file census reports. Tabulation of data for these businesses are based on administrative records and are shown only in U.S. summary publications and the geographic area reports series. Refer to the section on "Sample Design" for details. Foreign construction activities were not included in this census.

## **SAMPLE DESIGN, ESTIMATION PROCEDURES, AND RELIABILITY OF ESTIMATES**

The companies included in the 1987 Census of Construction Industries were identified as part of an operation common to all 1987 Economic Censuses. Construction companies were divided into employers (companies with payroll) and nonemployers (companies without payroll). Statistical information for the employers was obtained in the census by a survey which included all medium size and large employers and a sample of the smaller ones. Census reports were not required from the nonemployers. Statistics on them were obtained from administrative records of other agencies of the Federal Government.

### **Employer Companies**

**Developing the sampling frame for employer companies**—This operation started with obtaining a list of all construction companies in the active records of the Internal Revenue Service (IRS) which were subject to payment of Federal Insurance Contributions Act taxes. The basic source for this list has been the Internal Revenue Service Business Master File, a comprehensive list of companies engaged in business activities in the United States. The file contains the name, address, and form of ownership of each company and also indicates whether or not the company is subject to the FICA. Each company in this file is assigned a unique employer identification (EI) number which it uses in filing its various reports with the IRS. The Social Security Administration (SSA) maintains a similar list using the same identification numbers, which also contains information on the industrial classification of each company. The Bureau of the Census obtained both of these lists and combined them.

Under special arrangements which safeguarded the confidentiality of the information, the Bureau also obtained administrative records data on payrolls and receipts and added these data to the combined list. The list, thus created from the IRS-SSA information, was a list of employer companies. However, for the 1987 Economic Censuses the basic reporting unit is the "establishment." Therefore, steps were taken to identify the individual establishments of those companies which operate more than one place of business. The information for making this determination was obtained by means of the Company Organization Survey (COS), an annual canvass of all known multiestablishment companies and large single-establishment companies. Thus, the 1987 Economic Census list for single-establishment employer companies was obtained from the IRS-SSA, but the list of establishments of multiestablishment employer companies was obtained directly from those companies in the COS. Refer to the section on "Establishment Basis for Reporting" for details.

In general, the IRS-SSA list provided sufficient industrial classification data to assign a company to the proper economic census, but there were a number of companies for which this information was inadequate or unavailable. A special form, NC-9923, General Schedule, was mailed to all such companies, requesting information on the nature of the company's activities. From the information reported, the company was given an industrial classification code and assigned to the appropriate economic census. Since construction companies found in this way were identified only after the regular census mailing had taken place, they were treated as a supplement to the basic list.

**Selecting the employer sample**—The sample was designed to provide reliable State and metropolitan area estimates for each construction industry. It consisted of all construction establishments in multiestablishment companies, all single-establishment companies with estimated total employment of 20 employees or more, and a probability sample of single-establishment companies with estimated employment of fewer than 20 employees.

Supplementing the sample were construction companies identified from the NC-9923, General Schedule. Also affecting the sample were the misclassified companies; i.e., companies included in the samples of other trade areas which reported they were construction companies and companies originally classified in construction which reported they were not construction companies.

Of the 533,000 single-establishment employer companies initially classified as construction companies, 147,000 were included in the sample. All of the 13,000 establishments of multiestablishment companies were included in the sample. There was a net increase in the sample of 60,000 establishments resulting from establishments originally unclassified (receiving the NC-9923) or misclassified.

The probability sample of the smaller single-establishment companies was a stratified random sample. Strata were formed from all establishments with the same initial four-digit SIC code, in the same State, in the same metropolitan



area or in the balance of the State, and in the same size class based on estimated total employment. If the four-digit SIC code for an establishment was incomplete, the establishment was placed in a stratum for miscellaneous companies. Because they were small, all companies were included in the sample for the following three industries: SIC 1622, Bridge, Tunnel, and Elevated Highway Construction Contractors; SIC 1795, Wrecking and Demolition Work Special Trade Contractors; and SIC 1796, Installation or Erection of Building Equipment Special Trade Contractors.

#### Estimation procedures for 1987 and 1982 data—

Since all larger employer companies and some smaller ones were included in the census, sample estimation was required only for the universe of companies not selected with certainty. The published statistics are the totals of the estimates for the sampled companies and the aggregates for the certainty companies. All estimates for 1987 and 1982 published here are simple unbiased estimates of the form:

$$x'_c = \frac{\sum_{i=1}^{n_c} x_i}{n_c}$$

where:  $x'_c$  is the simple unbiased estimate of a characteristic for a publication cell.

$x_i$  is the reported value of a characteristic for an individual establishment in the publication cell.

$p_i$  is the selection probability of that firm.

$n_c$  is the number of firms in the sample for the cell.

Data for certain characteristics were reported as a percentage of the dollar value of business done. Before this formula was applied to those characteristics, it was necessary to convert the reported percentages into dollars.

**Reliability of employer statistics**—Since the estimates for employer establishments in these reports are based on the samples, they are subject to sampling variability and may be expected to differ from results which would have been obtained if a complete census had been taken using the same forms and procedures. The sampling errors shown in the tables were estimated directly from the sample reports, using methods appropriate for the sample design and form of estimation used.

The relative standard error is a measure of sampling variability, i.e., the variation that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the relative standard error also partially reflects the effect of random errors of response and processing, but it does not take into account the effect of any consistent biases due to those types of errors. The chances are about 68 out of 100 that an estimate from the

sample would differ from a complete census by less than the relative standard error. The chances are about 95 out of 100 that the difference is less than twice the relative standard error and about 99 out of 100 that it is less than 2-1/2 times the relative standard error. Individual estimates with large relative standard errors have been shown in the published tables. Any such estimates should be used with caution. The very large relative standard errors generally occur for the smaller estimates.

Relative standard errors have been calculated for all of the published statistics, although they are shown for each statistic only in the tables presenting detailed statistics. Other tables show relative standard errors only for certain characteristics because of lack of space.

As calculated for this report, the relative standard error measures certain nonsampling errors, but does not measure any systematic biases in the data. Bias is the difference, averaged over all possible samples with the same size and design, between the estimates and the true value being estimated. Nonsampling errors can be attributed to many sources: inability to obtain information about all cases in the sample; definitional difficulties; differences in interpretation of questions; inability or unwillingness of respondents to provide correct information; and errors made in processing the data. Although no direct measurements of the biases have been obtained, it is believed that most of the important response and operational errors were detected in the course of reviewing the data for reasonableness and consistency.

A potential source of bias is in the imputation for those establishments that have not responded by the time of final publication. Data were estimated for establishments that did not report by that date, although selected establishments were contacted again to obtain as much information on the telephone as possible. Some publication cells in which more than 40 percent of the data were not reported have been suppressed.

## Nonemployer Companies

As described earlier, the information derived from the business income tax returns of all companies was matched to the census employer file on the basis of common identification numbers. Those business income tax returns which could not be matched, were further classified on the basis of several characteristics. Returns with characteristics consistent with companies without payroll were treated as nonemployers. The nonemployer construction companies were not required to file census reports.

For "number of establishments," each separate income tax return was assumed to be an establishment. "All business receipts" was based on receipts information reported on the tax return.

Since no sampling was involved in the nonemployer establishments, the statistics for nonemployers are not subject to sampling variability. However, these data are subject to an unknown amount of reporting and processing errors which could not be detected by the Census Bureau.



## CENSUS REPORT FORMS

Information for the 1987 Census of Construction Industries was obtained from employer establishments primarily through the use of twenty-four questionnaires, determined by industry classification and size. Standard forms and short forms were developed for each of the following SIC groups: 15, 16, 171, 172, 173, 174, 175, 176, 177, 178, and 179 and for the establishments classified in SIC 6552. Establishments with 50 or more employees all received the standard form. A sub-sample of establishments with fewer than 50 employees received short forms instead of the standard forms. The short forms covered only major items and omitted some of the detail found in the longer forms.

In reviewing and developing the questionnaires, comments and recommendations were elicited from construction trade associations and appropriate advisory groups. The Bureau surveyed several thousand firms representing all economic activities to gain insight into the way companies maintain records and to see whether new information could be collected.

## DATA PROCESSING

The 1987 census report forms were mailed out in December 1987. They were mailed from and returned to the Census Bureau's Data Preparation Division in Jeffersonville, Ind., where routine editing and coding of the report forms were also accomplished. Collection of these report forms was essentially completed in July 1988.

The returned reports underwent extensive processing. A preliminary edit done at the time of data entry identified obviously deficient reports and reports needing clarification. When necessary, these problems were resolved by further contact with the respondents. Next, the data were transmitted to Census Bureau headquarters near Washington, DC.

Data records, then, underwent a detailed computer review and analysis. The records containing significant problems were referred for further analytical review and, if necessary, contacts were made with the respondents. The computer performed most classification coding (such as industry coding, geographic coding, and size coding), and imputation for missing items or for reports not received in time for tabulation. The imputation was performed on an industry (or industry group)-State (or geographic group) basis using all available response and administrative data.

The data records were then tabulated on an industry basis. Industry totals were subjected to analytical review, and selected statistics were prepared for the preliminary reports. Corrections resulting from this review were made to the computer records and final tabulations were produced.

The review of a preliminary report for an industry often uncovered the need for corrections or revisions to the data for another industry for which a preliminary report had already been published. The final reports incorporate all

revisions and corrections made during the review of the preliminary reports and contain considerable more data than were published in those reports.

## GEOGRAPHIC CLASSIFICATION

Information for the 1987 Census of Construction Industries' final industry report series is classified on the basis of two types of geographic distributions: (1) physical location of the establishment, and (2) location of construction work. A separate code was assigned on each basis allowing us to present data by both physical locations of the establishment and location of construction work.

The geographic area reports series presents similar data by industry for each State (physical location of the establishment) and for selected MSA's, CMSA's and PMSA's.

## DUPLICATION IN VALUE OF CONSTRUCTION WORK

The aggregate of value of construction work reported by all construction establishments in each of the several industry, geographic area, or other groupings in this census, contains varying amounts of duplication, since the construction work of one firm may be subcontracted to other construction firms and also be included in the subcontractors' value of construction work. To avoid this duplication, a "net" value of construction work figure has been derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work.

Duplication in value of business between other construction and nonconstruction industries, results from the use of products of these other industries as input materials by construction establishments. "Value added," avoids this duplication and is, for most purposes, the best measure for comparing the relative economic importance of industries or areas. "Value added," is defined in the 1987 Census of Construction Industries as equal to dollar value of business done less costs for construction work subcontracted to others and payments for materials, components, supplies, and fuels. However, for SIC 6552 and SIC 1531 where land receipts are significant, land receipts are also subtracted from dollar value of business done.

## SPECIAL TABULATIONS

Special tabulations of data collected in the 1987 Census of Construction Industries may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact and detailed specifications of the type and format of the data to be provided, should be directed to the Chief, Construction Statistics Division, Bureau of the Census, Washington, DC, 20233.



To discuss a special tabulation before submitting specifications, call 301-763-7546.

**COMPARABILITY OF CENSUS OF CONSTRUCTION INDUSTRIES DATA WITH OTHER DATA**

Data contained in the reports of the 1987 Census of Construction Industries are not the same as the data published in the Census Bureau's monthly Construction Reports, Series C30, Value of New Construction Put in Place. The main difference is that the C30 series covers all new construction put in place without regard to who is performing the construction activity, whereas the construction census figures cover both new construction and maintenance and repair work done by establishments classified in the construction industry. Significant amounts of construction are done by establishments classified outside of construction (in real estate, manufacturing, utilities and communications, for example), both as "force account" construction and construction done for others. In addition, the value in place series includes construction-related expenses such as architectural and engineering costs and the costs of materials supplied by owners which are normally not reflected in the Census of Construction.

Data contained in the reports of the census of construction industries may also differ from industry data in "Employment and Earnings Statistics," published by the Bureau of Labor Statistics, and "Statistics of Income," published by the Internal Revenue Service. These differences arise from varying definitions of scope, coverage, timing, classification, and methodology.

**ABBREVIATIONS AND SYMBOLS**

The following abbreviations and symbols are used in this publication:

*	Sampling error exceeds 40 percent.
**	Represents the sum of all employees during pay periods including 12th of March, May, August, and November, divided by 4.
-	Represents zero.
†	Represents value of construction work less costs for construction work subcontracted to others. (See Duplication in Value of Construction Work.)
††	Represents dollar value of business done less costs for construction work subcontracted to others, and costs for materials, components, supplies, and fuels. In SIC's 1531 and 6552, land receipts are also subtracted from dollar value of business done. (See Duplication in Value of Construction Work.)
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate, associated relative standard error, or a consistency review.
(W)	Greater than zero but less than 1 percent.
(X)	Not applicable.
n.s.k.	Not specified by kind.

# Users' Guide for Locating Statistics in This Report by Table Number

Statistics	For U.S.	By State	By employment size	By size class of dollar value of business done	By type, class, ownership, kind of business, and location of construction <sup>1</sup>	By specialization in types of construction
Assets and depreciation (gross book value):						
Beginning of year—buildings, machinery and equipment.....	3					
End of year—total.....	1, 3	1	5	6		
End of year—buildings, machinery and equipment.....	3					
Depreciation charges during year—buildings, machinery and equipment.....	3					
Capital expenditures:						
Total capital expenditures.....	1, 3	1	5	6		
New buildings—machinery and equipment.....	3					
Used buildings—machinery and equipment.....	3					
Communication services, costs for.....	2					
Employees:						
All employees—average number.....	1, 2	1	5	6		8
Construction workers—average number.....	1, 2, 9	1, 9				
Other employees—average number.....	2					
Employer costs for fringe benefits—legally required and voluntary expenditures.....	2					
Establishments—number in business during year.....	1, 2, 4, 9	1, 9	5	6		8
Hours—construction workers:						
Total.....	1, 2, 9	1, 9	5	6		
Quarterly.....	2, 9	9				
Inventories.....	4					
Materials, components, supplies, and fuels—costs for.....	1, 2	1	5	6		
Payroll:						
First quarter, all employees.....	2					
Annual:						
All employees.....	1, 2	1	5	6		8
Construction workers.....	1, 2	1				
Other employees.....	2					
Power, fuels, and lubricants—costs for.....	2					
Proprietors and working partners.....	2					
Ratios, State.....	13	13				
Value and receipts:						
Dollar value of business done, total.....	2		5	6	11	
Value of construction work, total.....	1, 2, 4	1	5	6	2, 7, 10	8
For work subcontracted in from others.....	2					
Other business receipts and land receipts <sup>2</sup> .....	2					
Net value of construction work.....	1, 2	1	5	6		8
Value added.....	1, 2	1	5	6		8
Rental costs:						
Total.....	1, 2	1	5	6		
For machinery and equipment.....	2					
For buildings.....	2					
Repairs to buildings and other structures.....	2					
Repairs to machinery and equipment.....	2					
Selected industry ratios.....	12					
Subcontract work to others, costs for.....	1, 2	1	5	6		8

Note: Data for 1982 and earlier years are also available in some of these tables.

<sup>1</sup>Type—buildings, roads, etc. Class—new construction; additions, alterations, or reconstruction; or maintenance and repair work. Ownership—private or government owned.

<sup>2</sup>Land receipts are shown separately for SIC's 1531 and 6552 only.



# CONTENTS

## Wrecking and Demolition Work Special Trade Contractors

[Page numbers listed here omit the prefix that appears as part of the number of each page]

	Page
Introduction .....	III
Users' Guide for Locating Statistics in This Report by Table Number .....	X
Summary of Findings .....	2

### FIGURES

1. Value of Construction Work by Type of Construction .....	3
2. Selected Costs Per Dollar Value of Business Done .....	3

### TABLES

#### Statistics for Establishments With Payroll

1. General Statistics by State: 1987 and 1982 .....	4
2. Detailed Statistics: 1987 and Earlier Census Years .....	6
3. Assets, Capital Expenditures, and Depreciation: 1987 and 1982 .....	7
4. Value of Inventories: 1987 and 1986 .....	8
5. Selected Statistics by Employment Size Class: 1987 and 1982 .....	8
6. Selected Statistics by Size Class of the Dollar Value of Business Done: 1987 and 1982 .....	9
7. Value of Construction Work by Type of Construction: 1987 and 1982 .....	10
8. Selected Statistics by Specialization in Types of Construction: 1987 .....	11
9. Quarterly Construction Worker Hours and Employment by State: 1987 .....	12
10. Value of Construction Work by Location of Construction Work: 1987 and 1982 .....	14
11. Dollar Value of Business Done by Kind of Business Activity: 1987 and 1982 .....	15
12. Selected Industry Ratios: 1987 and 1982 .....	16
13. Selected Industry Ratios by State: 1987 .....	17

Statistics for Establishments Without Payroll appear in the U.S. Industry Summary Report.

### APPENDIXES

A. Explanation of Terms .....	A-1
B. Standard Industrial Classification Titles for Industry Groups and Industries .....	B-1
C. Geographic Divisions and States .....	C-1

Publication Program .....	Inside back cover
---------------------------	-------------------

# SUMMARY OF FINDINGS

Establishments classified in this industry are primarily engaged in the wrecking and demolition of buildings and other structures, with or without the sale of material derived from demolishing operations. For additional examples, refer to the 1987 Standard Industrial Classification (SIC) Manual published by the Office of Management and Budget, Executive Office of the President.

During 1987, the establishments with paid employees classified in this industry accounted for \$959 million in total dollar value of business. Of this amount, \$912 million were for the value of construction work. These establishments paid out \$79.2 million for materials, components, and supplies and \$67.8 million for construction work subcontracted to others. Costs for selected power, fuels, and lubricants for this industry were \$30.0 million. Value added for 1987 was \$782 million.

There were 1,240 establishments with total employment averaging 14,109 during the year. Total payroll for 1987 was \$261 million. Total hours worked by construction workers during the year were 17.5 million hours.

Larger establishments with 20 employees or more, while representing only 12 percent of the total number of employer establishments in this industry accounted for 59 percent of all business done.

A "construction establishment" is defined as a relatively permanent office, or other place of business, where the usual business activities related to construction are conducted. A separate census report was required from each sampled establishment covering domestic operations. Separate reports were not, however, required for each project or construction site.

In 1987, the value of construction work was collected to better measure actual construction activity done during the year. Construction receipts, as reported in earlier censuses, may have included the value of work done before or after the calendar year and may have excluded the value of work in progress during the calendar year. Receipts may have also excluded work done by builders engaged in construction for sale on their own account or for their own use. All dollar values are shown in current dollars for the years specified and have not been adjusted for inflation.

The data in this report are estimated from a sample survey and are subject to sampling variability as well as errors of response and nonreporting. The relative standard error shown in the tables is a measure of sampling variability. Descriptions of the sampling, estimating procedures, and data reliability are included in the Introduction.



Figure 1. **Value of Construction Work by Type of Construction**  
(Percent)

1987  
1982

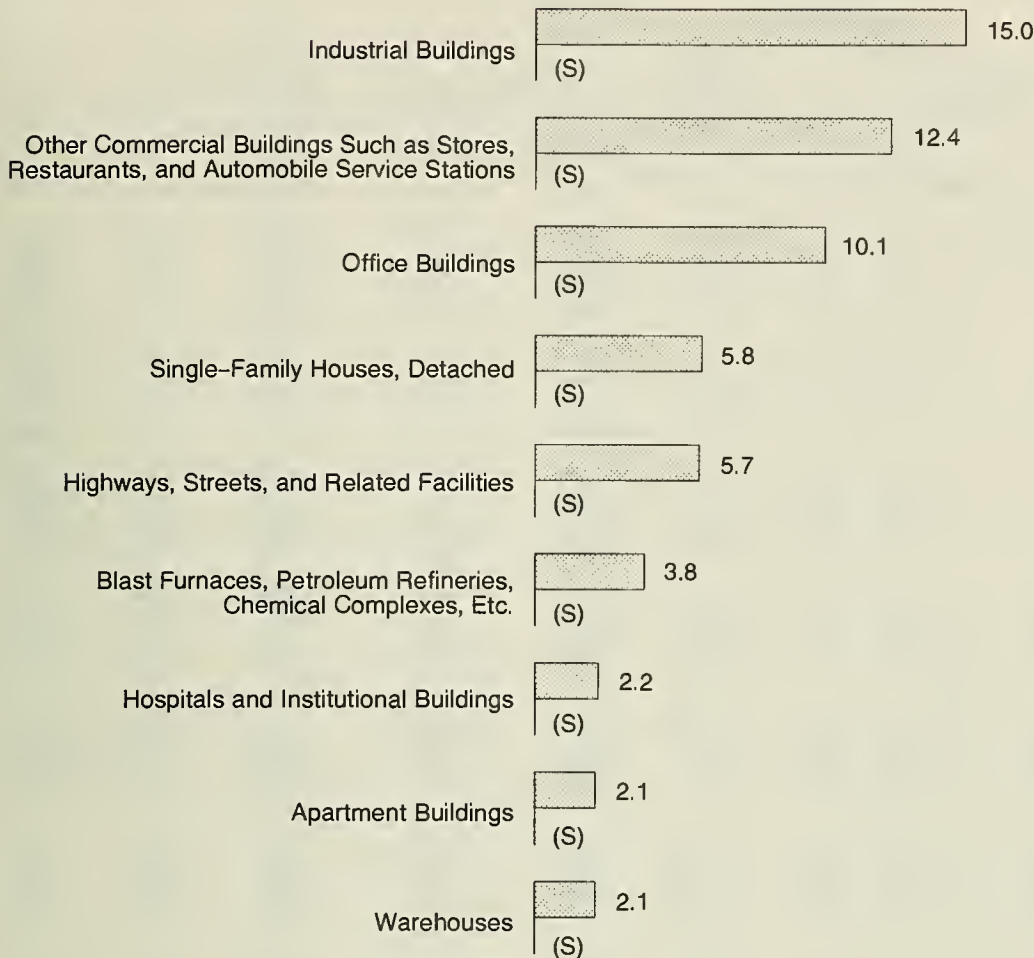
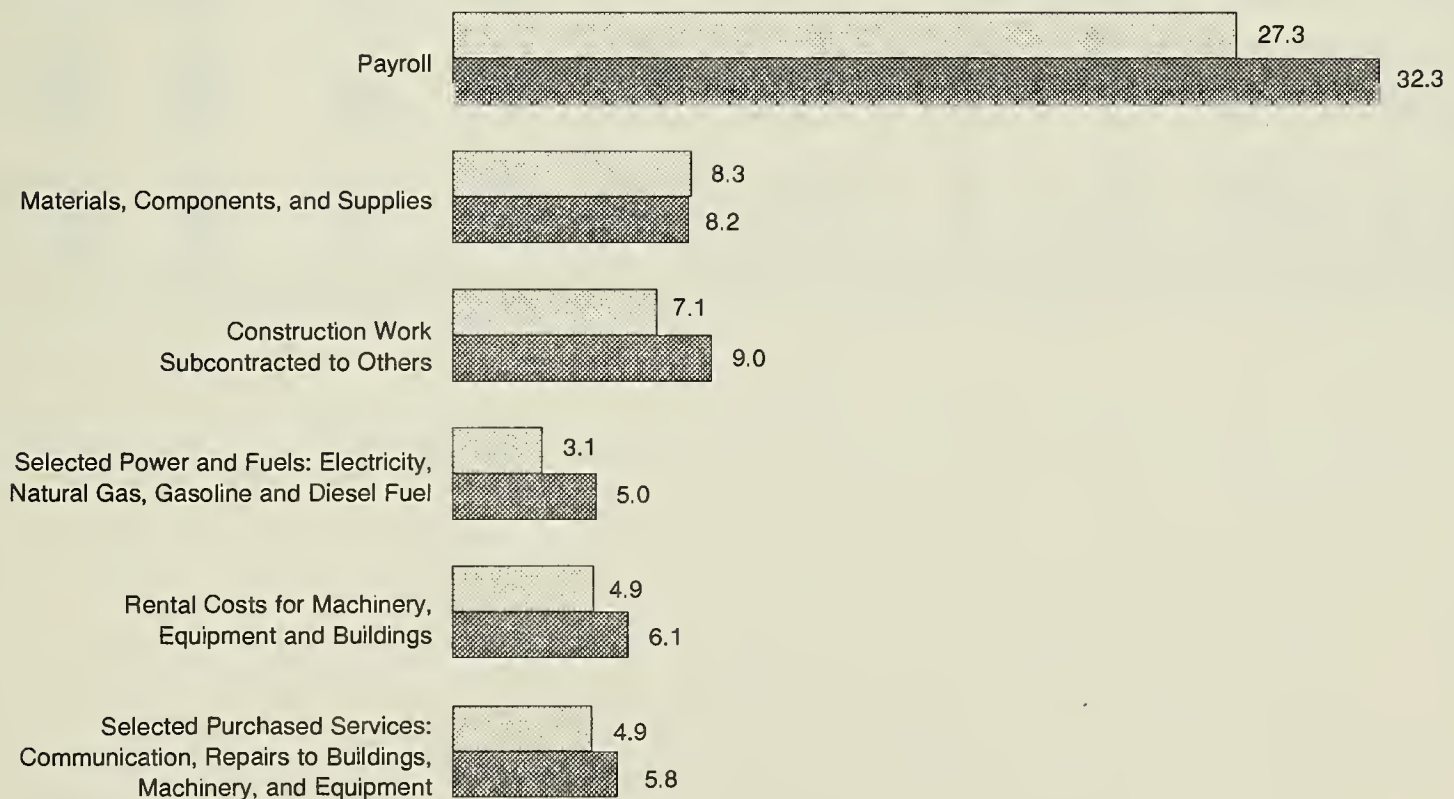


Figure 2. **Selected Costs Per Dollar Value of Business Done**  
(Percent)

1987  
1982



For meaning of abbreviations and symbols, see introductory text.

**Table 1. General Statistics for Establishments With Payroll by State: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	1987							
	Number of establishments	Employees**		Payroll		Construction worker hours (thousands)	Value of construction work	Net value of construction work†
		All	Construction workers	All employees	Construction workers			
United States .....	1 240	14 109	11 686	261 459	195 435	17 545	912 484	844 714
Alabama .....	6	95	82	(D)	905	152	4 437	(D)
Alaska .....	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Arizona .....	41	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Arkansas .....	10	(D)	13	(D)	105	(D)	468	407
California .....	135	2 572	2 139	37 701	29 516	2 306	132 149	123 698
Colorado .....	36	177	138	2 410	1 575	184	6 222	5 627
Connecticut .....	20	270	213	7 225	5 545	417	22 012	19 797
Delaware .....	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)
District of Columbia .....	-	-	-	-	-	-	-	-
Florida .....	41	297	241	5 601	4 158	408	17 859	17 189
Georgia .....	*14	198	166	3 261	2 560	255	13 068	(D)
Hawaii .....	*6	26	20	583	441	33	2 636	2 566
Idaho .....	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Illinois .....	108	895	755	25 302	19 254	1 369	81 489	78 348
Indiana .....	7	45	39	581	498	(D)	1 679	1 606
Iowa .....	*17	*122	*103	1 467	1 190	64	5 039	4 764
Kansas .....	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Kentucky .....	8	52	44	720	611	72	2 912	2 763
Louisiana .....	*15	134	107	1 894	1 480	154	8 205	*7 589
Maine .....	(S)	(S)	(S)	*327	*303	(S)	(D)	*1 454
Maryland .....	41	766	660	12 124	10 007	858	37 403	32 233
Massachusetts .....	35	327	268	7 199	5 729	484	32 808	30 603
Michigan .....	77	654	521	17 769	12 177	951	81 751	75 778
Minnesota .....	6	*117	*101	1 438	922	*189	*6 195	*5 831
Mississippi .....	(S)	*81	*68	1 496	1 176	*130	2 861	2 661
Missouri .....	13	107	85	2 636	2 110	175	12 822	(D)
Montana .....	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Nebraska .....	4	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Nevada .....	*13	*97	*85	2 164	1 843	*160	5 780	(D)
New Hampshire .....	*16	(S)	(S)	(S)	(S)	(S)	(S)	(S)
New Jersey .....	41	683	571	14 889	11 420	981	47 875	45 067
New Mexico .....	*11	93	*82	1 025	746	118	4 542	*3 900
New York .....	110	1 533	1 270	38 142	25 685	1 871	110 716	97 840
North Carolina .....	*14	357	306	(D)	2 655	395	17 729	17 229
North Dakota .....	3	(D)	(D)	167	147	13	798	682
Ohio .....	30	628	526	9 072	7 114	766	36 809	34 296
Oklahoma .....	*26	131	100	3 007	2 134	147	8 336	8 260
Oregon .....	20	89	72	1 742	1 398	111	7 116	6 371
Pennsylvania .....	44	887	743	13 073	10 467	1 104	41 061	38 898
Rhode Island .....	11	87	71	2 423	1 598	122	8 546	8 042
South Carolina .....	*13	*55	*50	(D)	*431	*90	1 757	1 715
South Dakota .....	-	-	-	-	-	-	-	-
Tennessee .....	*18	165	132	1 870	1 462	270	*10 159	*9 032
Texas .....	82	687	552	11 452	7 677	939	46 756	44 839
Utah .....	*29	162	139	1 746	1 471	227	5 491	4 877
Vermont .....	-	-	-	-	-	-	-	-
Virginia .....	20	425	353	7 845	5 558	671	25 551	24 179
Washington .....	22	262	196	5 881	3 939	217	19 033	18 110
West Virginia .....	3	42	36	(D)	544	63	(D)	(D)
Wisconsin .....	29	136	114	2 266	1 814	245	5 479	5 262
Wyoming .....	-	-	-	-	-	-	-	-

†In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



1987—Con.						1982			Relative standard error of estimate (percent) for column—			Location of establishment
Value added††	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings	Capital expenditures, other than land	End-of-year gross book value of depreciable assets	All employees**	Total construction receipts¹	Value added††				
I	J	K	L	M	N	O	P	Q	B	H	M	
781 854	109 210	67 769	47 066	40 895	273 906	8 402	376 895	313 761	2	2	8	U.S.
4 636	280	(D)	187	(D)	(D)	61	1 831	1 775	(W)	(D)	(D)	AL
(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AK
(S)	(S)	(S)	(S)	(S)	(S)	(D)	(D)	(D)	(S)	(S)	(S)	AZ
287	(D)	*61	(D)	(D)	(D)	(D)	(D)	(D)	(D)	31	(D)	AR
113 285	15 232	8 450	7 632	4 259	29 627	976	52 295	43 831	2	3	8	CA
5 295	942	594	*420	279	2 518	8	521	442	28	21	28	CO
18 443	*2 957	*2 215	260	584	5 579	116	7 458	6 669	12	14	6	CT
(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	DE
-	-	-	-	-	-	(D)	1 338	1 065	-	-	-	DC
15 226	(D)	*670	*917	*2 465	6 234	164	6 393	5 390	17	18	51	FL
11 652	1 050	(D)	687	(D)	(D)	102	3 128	2 633	6	(D)	(D)	GA
2 413	(D)	70	(D)	*123	1 154	(D)	1 068	927	17	23	50	HI
(D)	(D)	(D)	(D)	(D)	(D)	-	-	-	(D)	(D)	(D)	ID
74 728	5 774	3 141	2 128	2 457	22 278	711	28 136	26 753	6	3	14	IL
1 409	249	73	*47	*20	340	87	3 081	2 784	(W)	(W)	57	IN
3 906	*944	275	141	-	(D)	27	853	844	46	30	-	IA
(D)	(D)	(D)	(D)	*91	768	(D)	(D)	(D)	(D)	(D)	58	KS
2 508	(D)	149	291	114	727	(D)	504	437	(W)	(D)	(W)	KY
6 959	1 274	616	283	639	(D)	112	4 203	3 712	24	41	(W)	LA
*1 096	(S)	(D)	(S)	(S)	(S)	(D)	(D)	(D)	(S)	72	(S)	ME
33 514	3 735	5 169	1 662	784	11 870	67	3 969	3 085	14	9	4	MD
27 366	3 705	2 205	1 998	788	5 773	321	13 879	10 485	8	7	17	MA
67 723	9 119	5 973	5 320	4 812	19 090	376	20 640	17 848	10	5	24	MI
*4 269	*1 562	364	(D)	(D)	(D)	84	3 708	3 049	53	54	(D)	MN
2 675	*877	200	*307	*178	*1 680	-	-	-	53	32	50	MS
8 646	1 295	(D)	884	507	2 176	82	5 534	3 223	10	(D)	36	MO
(S)	(S)	(S)	(S)	(S)	(S)	(D)	(D)	(D)	(S)	(S)	(S)	MT
(D)	(D)	(D)	514	(D)	3 713	*16	*1 092	*916	(D)	(D)	(D)	NE
5 691	917	(D)	*659	*426	*3 137	(D)	(D)	(D)	44	(D)	46	NV
(S)	(S)	(S)	(S)	(S)	(S)	(D)	(D)	(D)	(S)	(S)	(S)	NH
39 988	5 905	2 808	1 648	1 151	8 077	677	30 651	26 873	(W)	(W)	11	NJ
3 480	(D)	642	(S)	(D)	(D)	(D)	*766	*725	40	43	(D)	NM
89 154	13 412	12 876	4 046	5 437	32 173	1 444	57 085	47 595	3	4	9	NY
(D)	3 483	500	1 054	(D)	(D)	160	(D)	(D)	2	2	(D)	NC
550	(D)	116	(D)	(D)	(D)	-	-	-	(D)	(W)	(D)	ND
32 049	3 293	2 513	1 545	1 284	11 519	402	20 590	16 220	3	1	9	OH
7 713	778	76	191	386	5 983	130	6 487	5 522	23	18	16	OK
5 301	*1 270	*744	191	268	2 218	(D)	2 016	1 598	22	22	13	OR
40 535	6 354	2 163	2 639	1 663	27 232	554	29 813	21 125	5	4	13	PA
7 560	777	504	518	553	2 461	28	1 297	1 189	(W)	(W)	35	RI
1 545	(D)	42	65	(S)	(S)	(D)	(S)	(S)	41	31	(S)	SC
-	-	-	-	-	-	(D)	(D)	(D)	-	-	-	SD
*8 632	1 212	(S)	(S)	(S)	*3 495	(D)	3 014	2 290	26	51	(S)	TN
38 992	7 026	1 917	1 557	*3 915	16 765	352	17 372	14 763	19	13	54	TX
3 611	1 620	614	136	*161	*3 060	83	(D)	2 277	30	23	54	UT
-	-	-	-	-	-	(D)	(D)	(D)	-	-	-	VT
24 155	1 584	1 371	3 152	1 233	8 663	263	13 156	9 373	8	12	14	VA
16 030	(D)	923	1 107	1 145	8 856	166	8 105	7 349	16	3	6	WA
1 882	191	(D)	112	(D)	(D)	142	5 373	4 643	(W)	(D)	(D)	WV
4 927	*864	217	*356	(S)	*5 430	190	6 369	5 247	24	31	(S)	WI
-	-	-	-	-	-	(S)	(S)	(S)	-	-	-	WY

# Table 2. Detailed Statistics for Establishments With Payroll: 1987 and Earlier Census Years

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	1977	1972	Relative standard error of estimate (percent)			
					1987	1982	1977	1972
Number of establishments in business during year .....	1 240	890	978	1 027	5	3	3	6
Proprietors and working partners .....	241	223	359	462	16	11	6	12
All employees** .....	14 109	8 402	8 295	9 067	2	2	1	4
Construction workers:								
March .....	11 005	6 967	6 160	7 237	2	1	1	4
May .....	11 427	6 932	7 418	7 650	2	1	1	5
August .....	12 420	7 572	7 553	7 953	2	2	2	6
November .....	11 910	7 009	6 803	6 843	3	2	2	4
Average .....	11 686	7 201	6 998	7 544	2	1	2	4
Other employees:								
March .....	2 288	1 201	1 235	1 487	3	2	2	5
May .....	2 459	(NA)	(NA)	(NA)	3	(NA)	(NA)	(NA)
August .....	2 423	(NA)	(NA)	(NA)	3	(NA)	(NA)	(NA)
November .....	2 503	(NA)	(NA)	(NA)	3	(NA)	(NA)	(NA)
Average .....	2 422	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
Construction worker hours (thousands):								
January to March .....	3 925	2 402	(NA)	(NA)	3	2	(NA)	(NA)
April to June .....	4 406	2 433	(NA)	(NA)	3	2	(NA)	(NA)
July to September .....	4 788	2 891	(NA)	(NA)	3	2	(NA)	(NA)
October to December .....	4 424	2 664	(NA)	(NA)	3	3	(NA)	(NA)
Total hours worked .....	17 545	10 391	(NA)	(NA)	3	2	(NA)	(NA)
Payroll, all employees .....	261 459	130 077	89 020	80 173	2	1	1	3
Payroll, construction workers .....	195 435	107 158	70 233	64 081	2	1	1	3
Payroll, other employees .....	66 024	22 919	18 787	16 092	2	1	1	4
First quarter payroll, all employees .....	56 428	29 731	18 809	(NA)	2	1	1	(NA)
Employer costs for fringe benefits, all employees .....	57 615	24 866	17 780	(NA)	2	1	1	(NA)
Legally required expenditures .....	42 391	17 693	11 186	(NA)	3	2	1	(NA)
Voluntary expenditures .....	15 224	7 173	6 594	(NA)	3	1	1	(NA)
Dollar value of business done .....	958 834	402 993	258 204	236 678	2	1	1	4
Value of construction work <sup>1</sup> .....	912 484	376 895	240 630	219 412	2	1	1	4
Value of construction work subcontracted in from others .....	364 834	110 771	63 673	55 522	4	3	4	6
Land receipts <sup>2</sup> .....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Other business receipts .....	46 350	26 098	17 574	17 266	3	1	1	3
Net value of construction work† .....	844 714	340 696	229 161	202 581	2	1	1	4
Value added†† .....	781 854	313 761	210 606	195 358	2	1	1	4
Selected costs .....	176 979	89 232	47 598	41 320	4	1	1	6
Materials, components, and supplies <sup>3</sup> .....	79 210	32 903	25 857	24 489	5	2	1	4
Construction work subcontracted to others .....	67 769	36 198	11 470	16 831	6	1	1	13
Selected power, fuels, and lubricants .....	30 000	20 130	10 271	(NA)	3	2	2	(NA)
Electricity .....	2 285	1 346	801	(NA)	6	2	2	(NA)
Natural gas .....	501	453	353	(NA)	3	4	29	(NA)
Gasoline and diesel fuel .....	24 766	16 899	8 072	(NA)	3	2	1	(NA)
On highway use .....	15 431	(NA)	(NA)	(NA)	3	(NA)	(NA)	(NA)
Off highway use .....	9 334	(NA)	(NA)	(NA)	4	(NA)	(NA)	(NA)
Other, including lubricating oils and greases .....	2 446	1 431	1 046	(NA)	4	2	2	(NA)
Rental cost for machinery, equipment, and buildings .....	47 066	24 496	13 912	(NA)	4	1	2	(NA)
For machinery and equipment .....	40 079	21 437	13 003	18 858	4	1	2	10
For buildings .....	6 986	3 059	909	(NA)	10	5	4	(NA)
Selected purchased services .....	46 977	23 209	16 881	(NA)	4	1	1	(NA)
Communication services .....	7 002	3 490	2 031	(NA)	4	3	2	(NA)
Repairs to buildings and other structures .....	1 470	603	391	(NA)	6	10	1	(NA)
Repairs to machinery and equipment .....	38 505	19 116	14 460	(NA)	5	1	1	(NA)
Ownership of construction projects:								
Value of construction work <sup>1</sup> .....	912 484	376 895	240 630	219 412	2	1	1	4
Government owned .....	213 575	85 470	50 156	54 616	6	4	2	5
Federal .....	42 239	(NA)	(NA)	(NA)	9	(NA)	(NA)	(NA)
State and local .....	171 336	(NA)	(NA)	(NA)	6	(NA)	(NA)	(NA)
Privately owned .....	698 908	291 424	190 475	164 796	2	2	2	4

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.  
<sup>2</sup>Data were collected separately for establishments classified in SIC 1531, Operative Builders, and SIC 6552, Subdividers and Developers, Except Cemeteries. For all other industries, data are included in other business receipts.  
<sup>3</sup>For 1972, includes data for power, fuels, and lubricants.



Table 3. **Assets, Capital Expenditures, and Depreciation for Establishments With Payroll:  
1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item			Relative standard error of estimate (percent)	
			1987	1982
<b>BUILDINGS AND OTHER STRUCTURES, MACHINERY, AND EQUIPMENT</b>				
Beginning-of-year gross book value of depreciable assets -----	244 635	157 008	4	2
Capital expenditures, other than land -----	40 895	15 755	8	3
New -----	26 763	9 496	8	3
Used -----	14 132	6 259	13	3
Retirements and disposition of depreciable assets -----	11 624	4 474	7	1
End-of-year gross book value of depreciable assets -----	273 906	168 289	4	2
Depreciation charges during year -----	30 806	19 932	4	2
<b>Buildings and other Structures, Additions, and Related Facilities</b>				
Beginning-of-year gross book value of depreciable assets -----	21 683	8 297	7	5
Capital expenditures, other than land -----	2 770	681	24	11
New buildings and other structures -----	1 710	298	32	(W)
Used buildings and other structures -----	1 060	383	37	20
Retirements and disposition of depreciable assets -----	*975	-	57	-
End-of-year gross book value of depreciable assets -----	23 478	8 978	7	5
Depreciation charges during year -----	2 057	1 297	9	3
<b>Machinery and Equipment</b>				
Beginning-of-year gross book value of depreciable assets -----	222 952	148 711	4	2
Capital expenditures, other than land -----	38 125	15 074	8	2
New machinery and equipment, including automobiles and trucks -----	25 053	9 197	8	3
New automobiles and trucks, intended primarily for highway use -----	13 180	3 700	5	1
Used machinery and equipment, including automobiles and trucks -----	13 072	5 876	14	2
Retirements and disposition of depreciable assets -----	10 649	4 474	5	1
End-of-year gross book value of depreciable assets -----	250 428	159 310	4	2
Depreciation charges during year -----	28 748	18 635	4	2

**Table 4. Value of Inventories for Establishments With Payroll: 1987 and 1986**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Establishments with payroll	Relative standard error of estimate (percent)
All establishments:		
Number .....	1 240	5
Value of construction work .....	912 484	2
Establishments with inventories:		
Number .....	372	11
Value of construction work .....	256 033	5
Inventories <sup>1</sup> :		
End of 1987, materials and supplies .....	6 794	8
End of 1986, materials and supplies .....	6 554	10
Establishments with no inventories:		
Number .....	658	8
Value of construction work .....	468 829	4
Establishments not reporting:		
Number .....	210	10
Value of construction work .....	187 622	3

<sup>1</sup>Inventories at cost or market prior to any adjustment to correct to LIFO values.

**Table 5. Selected Statistics for Establishments With Payroll by Employment Size Class: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with an average of—								1,000 employees or more
		1 to 4 employees	5 to 9 employees	10 to 19 employees	20 to 49 employees	50 to 99 employees	100 to 249 employees	250 to 499 employees	500 to 999 employees	
<b>1987</b>										
Number of establishments .....	1 240	653	273	162	112	28	8	3	1	-
All employees** .....	14 109	1 575	1 890	2 267	3 317	1 999	3 059	(D)	(D)	-
Payroll, all employees .....	261 459	19 708	33 089	46 690	72 922	48 134	40 915	(D)	(D)	-
Construction worker hours (thousands) .....	17 545	1 748	2 218	3 352	4 331	2 851	3 042	(D)	(D)	-
Dollar value of business done .....	958 834	93 862	136 908	164 473	263 650	187 688	112 252	(D)	(D)	-
Value of construction work <sup>1</sup> .....	912 484	89 489	133 446	157 078	249 187	283 281	(D)	(D)	(D)	-
Net value of construction work† .....	844 714	83 569	118 331	144 269	234 263	264 281	(D)	(D)	(D)	-
Value added†† .....	781 854	73 148	103 927	130 246	220 526	157 804	96 203	(D)	(D)	-
Cost of materials, components, supplies, and fuels .....	109 210	14 793	17 866	21 417	28 200	15 637	11 296	(D)	(D)	-
Cost of construction work subcontracted to others .....	67 769	5 920	15 114	12 809	14 924	14 247	4 753	(D)	(D)	-
Rental cost for machinery, equipment, and buildings .....	47 066	3 873	8 415	7 332	13 608	9 785	4 052	(D)	(D)	-
Capital expenditures, other than land .....	40 895	6 128	7 223	9 047	9 617	8 879	(D)	(D)	(D)	-
End-of-year gross book value of depreciable assets .....	273 906	39 822	43 890	54 021	68 360	53 208	14 605	(D)	(D)	-
<b>1982</b>										
All employees** .....	8 402	903	1 226	1 706	2 111	1 668	788	(D)	-	-
Total construction receipts <sup>1</sup> .....	376 895	45 844	54 746	74 356	105 328	78 461	18 160	(D)	-	-
Value added†† .....	313 761	37 048	45 872	63 210	77 205	72 443	17 981	(D)	-	-
<b>1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)</b>										
All employees** .....	2	9	8	6	4	(W)	(W)	(D)	(D)	-
Net value of construction work† .....	2	9	8	5	2	(W)	(D)	(D)	(D)	-
Capital expenditures, other than land .....	8	24	24	24	6	1	(D)	(D)	(D)	-

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



Table 6. Selected Statistics by Size Class of the Dollar Value of Business Done for Establishments With Payroll: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with dollar value of business done									
		Less than \$25,000	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 to \$999,999	\$1,000,000 to \$2,499,999	\$2,500,000 to \$4,999,999	\$5,000,000 to \$9,999,999	\$10,000,000 or more
<b>1987</b>											
Number of establishments -----	1 240	(S)	(S)	(S)	351	(S)	159	140	50	25	12
All employees** -----	14 109	(S)	(S)	(S)	1 302	(S)	1 794	2 972	1 851	4 265	(D)
Payroll, all employees -----	261 459	(S)	(S)	(S)	15 260	(S)	34 545	60 151	44 043	82 995	(D)
Construction worker hours (thousands) -----	17 545	(S)	(S)	(S)	1 466	(S)	2 454	4 028	2 393	4 989	(D)
Dollar value of business done -----	958 834	(S)	(S)	(S)	56 590	(S)	111 472	213 944	162 515	334 336	(D)
Value of construction work <sup>1</sup> -----	912 484	(S)	(S)	(S)	53 642	(S)	106 743	206 384	469 052	(D)	(D)
Net value of construction work† -----	844 714	(S)	(S)	(S)	50 891	(S)	101 448	189 401	432 440	(D)	(D)
Value added†† -----	781 854	(S)	(S)	(S)	42 599	(S)	93 111	169 400	134 017	280 497	(D)
Cost of materials, components, supplies, and fuels -----	109 210	(S)	(S)	(S)	11 239	(S)	13 067	27 560	15 276	30 449	(D)
Cost of construction work subcontracted to others -----	67 769	(S)	(S)	(S)	2 751	(S)	5 294	16 983	13 222	23 390	(D)
Rental cost for machinery, equipment, and buildings -----	47 066	(S)	(S)	(S)	2 189	(S)	6 629	11 063	8 034	15 998	(D)
Capital expenditures, other than land -----	40 895	(S)	(S)	(S)	2 672	(S)	9 909	9 370	4 305	10 162	(D)
End-of-year gross book value of depreciable assets -----	273 906	(S)	(S)	(S)	25 323	(S)	47 462	68 261	43 868	64 247	(D)
<b>1982</b>											
All employees** -----	8 402	(S)	162	418	964	1 081	1 435	1 849	1 138	1 232	-
Total construction receipts <sup>1</sup> -----	376 895	(S)	3 071	11 055	33 208	47 437	63 131	94 078	66 483	57 126	-
Value added†† -----	313 761	(S)	2 541	9 185	27 324	39 359	52 971	71 544	56 129	53 542	-
<b>1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)</b>											
All employees** -----	2	(S)	(S)	(S)	12	(S)	9	5	1	(W)	(D)
Net value of construction work† -----	2	(S)	(S)	(S)	11	(S)	9	3	2	(D)	(D)
Capital expenditures, other than land -----	8	(S)	(S)	(S)	34	(S)	27	11	8	5	(D)

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

<sup>1</sup>In earlier censuses construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

**Table 7. Value of Construction Work for Establishments With Payroll by Type of Construction: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Type of construction	Value of construction work <sup>1</sup>				Relative standard error of estimate (percent) for column—			
	Total	New construction	Additions, alterations, or reconstruction <sup>2</sup>	Maintenance and repair				
	A	B	C	D	A	B	C	D
<b>1987</b>								
Value of construction work <sup>1</sup> .....	912 484	(S)	(S)	(S)	2	(S)	(S)	(S)
<b>Building construction</b> .....	518 990	(S)	(S)	(S)	2	(S)	(S)	(S)
Single-family houses .....	60 203	(S)	(S)	(S)	8	(S)	(S)	(S)
Single-family houses, detached .....	52 773	(S)	(S)	(S)	7	(S)	(S)	(S)
Single-family houses, attached .....	7 429	(S)	(S)	(S)	22	(S)	(S)	(S)
Apartment buildings with two or more apartments .....	18 865	(S)	(S)	(S)	4	(S)	(S)	(S)
Other residential buildings, including hotels and motels .....	14 373	(S)	(S)	(S)	8	(S)	(S)	(S)
Office buildings .....	92 140	(S)	(S)	(S)	1	(S)	(S)	(S)
Other commercial buildings such as stores, restaurants, and automobile service stations .....	113 540	(S)	(S)	(S)	3	(S)	(S)	(S)
Industrial buildings and warehouses .....	155 531	(S)	(S)	(S)	1	(S)	(S)	(S)
Industrial buildings .....	136 744	(S)	(S)	(S)	1	(S)	(S)	(S)
Warehouses .....	18 787	(S)	(S)	(S)	3	(S)	(S)	(S)
Educational buildings .....	12 769	(S)	(S)	(S)	6	(S)	(S)	(S)
Hospitals and institutional buildings .....	20 045	(S)	(S)	(S)	3	(S)	(S)	(S)
Other buildings .....	31 524	(S)	(S)	(S)	7	(S)	(S)	(S)
<b>Nonbuilding construction</b> .....	203 432	(S)	(S)	(S)	6	(S)	(S)	(S)
Highways, streets, and related facilities .....	51 949	(S)	(S)	(S)	11	(S)	(S)	(S)
Bridges, tunnels, and elevated highways .....	14 832	(S)	(S)	(S)	36	(S)	(S)	(S)
Sewers, water mains, and related facilities .....	16 064	(S)	(S)	(S)	7	(S)	(S)	(S)
Blast furnaces, petroleum refineries, and chemical complexes .....	35 028	(S)	(S)	(S)	2	(S)	(S)	(S)
Other nonbuilding construction .....	85 559	(S)	(S)	(S)	8	(S)	(S)	(S)
<b>Construction work, n.s.k.</b> .....	190 062	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
<b>1982</b>								
Value of construction work <sup>1</sup> .....	376 895	(S)	(NA)	(S)	1	(S)	(NA)	(S)
<b>Building construction</b> .....	(S)	(S)	(NA)	(S)	(S)	(S)	(NA)	(S)
<b>Nonbuilding construction</b> .....	(S)	(S)	(NA)	(S)	(S)	(S)	(NA)	(S)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

<sup>2</sup>In 1982, data for additions, alterations, or reconstruction were collected separately for SIC 1521, 1522, 1531, 1541, and 1542. For all other industries, data are included with "New construction."



**Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987**

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Number of establishments	All employees**	Payroll, all employees	Value of construction work		Net value of construction work†	Value added††	Cost of construction work sub-contracted to others	Relative standard error of estimate (percent) for column—		
				For all types	For specialized type				B	D	H
	A	B	C	D	E	F	G	H			
<b>All establishments</b> .....	<b>1 240</b>	<b>14 109</b>	<b>261 459</b>	<b>912 484</b>	<b>606 891</b>	<b>844 714</b>	<b>781 854</b>	<b>67 769</b>	<b>2</b>	<b>2</b>	<b>6</b>
Establishments not specializing by type .....	260	3 395	68 219	248 677	(NA)	225 639	212 320	23 038	2	2	4
Establishments specializing 51 percent or more .....	979	10 714	193 240	663 806	606 891	619 075	569 534	44 731	5	4	17
<b>SINGLE-FAMILY HOUSES, DETACHED</b>											
<b>All establishments specializing in type</b> .....	<b>57</b>	<b>473</b>	<b>7 819</b>	<b>28 056</b>	<b>23 988</b>	<b>24 739</b>	<b>20 619</b>	<b>*3 317</b>	<b>14</b>	<b>17</b>	<b>47</b>
Establishments with —											
100 percent specialization .....	22	180	3 334	11 231	11 231	10 245	8 785	986	28	20	27
90 to 99 percent specialization .....	8	51	953	2 782	2 625	2 662	2 549	120	32	34	(W)
80 to 89 percent specialization .....	5	122	1 861	5 667	4 706	(D)	4 746	(D)	(W)	(W)	(D)
70 to 79 percent specialization .....	*18	92	811	3 446	2 466	(D)	3 161	(D)	40	15	(D)
60 to 69 percent specialization .....	*3	*26	*860	(S)	(S)	(S)	*1 377	(S)	75	(S)	(S)
51 to 59 percent specialization .....	-	-	-	-	-	-	-	-	-	-	-
<b>OFFICE BUILDINGS</b>											
<b>All establishments specializing in type</b> .....	<b>40</b>	<b>1 033</b>	<b>26 420</b>	<b>66 393</b>	<b>60 322</b>	<b>60 607</b>	<b>60 065</b>	<b>5 786</b>	<b>3</b>	<b>1</b>	<b>1</b>
Establishments with —											
100 percent specialization .....	28	796	19 788	33 031	33 031	30 076	30 901	2 955	4	2	2
90 to 99 percent specialization .....	5	134	4 224	20 643	19 272	18 757	17 416	1 886	(W)	(W)	(W)
80 to 89 percent specialization .....	-	-	-	-	-	-	-	-	-	-	-
70 to 79 percent specialization .....	4	50	(D)	(D)	(D)	(D)	(D)	(D)	35	(D)	(D)
60 to 69 percent specialization .....	3	52	(D)	(D)	(D)	(D)	(D)	(D)	(W)	(D)	(D)
51 to 59 percent specialization .....	-	-	-	-	-	-	-	-	-	-	-
<b>OTHER COMMERCIAL BUILDINGS SUCH AS STORES, RESTAURANTS, AND AUTOMOBILE SERVICE STATIONS</b>											
<b>All establishments specializing in type</b> .....	<b>70</b>	<b>1 010</b>	<b>20 660</b>	<b>77 900</b>	<b>62 058</b>	<b>74 876</b>	<b>71 470</b>	<b>3 023</b>	<b>5</b>	<b>3</b>	<b>3</b>
Establishments with —											
100 percent specialization .....	32	246	5 181	15 673	15 673	15 172	14 277	500	17	11	11
90 to 99 percent specialization .....	9	(D)	(S)	(S)	(S)	(S)	(D)	(S)	(D)	(S)	(S)
80 to 89 percent specialization .....	10	323	5 861	25 399	20 462	(D)	23 631	(D)	(W)	(W)	(D)
70 to 79 percent specialization .....	4	322	6 879	25 974	19 300	24 254	24 555	1 720	(W)	(W)	(W)
60 to 69 percent specialization .....	*13	39	979	5 530	3 333	5 372	4 731	*158	19	18	43
51 to 59 percent specialization .....	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>INDUSTRIAL BUILDINGS</b>											
<b>All establishments specializing in type</b> .....	<b>46</b>	<b>932</b>	<b>22 678</b>	<b>113 981</b>	<b>96 004</b>	<b>105 720</b>	<b>100 527</b>	<b>8 260</b>	<b>3</b>	<b>1</b>	<b>1</b>
Establishments with —											
100 percent specialization .....	18	462	14 563	62 327	62 327	59 643	57 787	2 683	7	2	4
90 to 99 percent specialization .....	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
80 to 89 percent specialization .....	4	21	75	1 188	950	596	493	592	(W)	(W)	(W)
70 to 79 percent specialization .....	12	74	992	4 085	2 903	3 982	3 656	103	(W)	(W)	(W)
60 to 69 percent specialization .....	8	298	4 279	32 829	20 627	28 822	26 016	4 007	(W)	(W)	(W)
51 to 59 percent specialization .....	3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
<b>HIGHWAYS, STREETS, AND RELATED FACILITIES</b>											
<b>All establishments specializing in type</b> .....	<b>60</b>	<b>677</b>	<b>14 855</b>	<b>44 951</b>	<b>40 613</b>	<b>43 063</b>	<b>39 260</b>	<b>1 887</b>	<b>15</b>	<b>13</b>	<b>11</b>
Establishments with —											
100 percent specialization .....	35	443	9 987	28 945	28 945	28 125	26 438	819	16	15	20
90 to 99 percent specialization .....	-	-	-	-	-	-	-	-	-	-	-
80 to 89 percent specialization .....	5	*110	1 780	*7 264	5 936	*6 482	*4 867	782	59	48	15
70 to 79 percent specialization .....	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
60 to 69 percent specialization .....	*18	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
51 to 59 percent specialization .....	-	-	-	-	-	-	-	-	-	-	-

# Table 9. Quarterly Construction Worker Hours and Employment for Establishments With

[Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Number of establishments	Average number of construction workers	Construction worker hours (thousands)	January to March		April to June	
				Construction workers <sup>1</sup>	Hours worked (thousands)	Construction workers <sup>1</sup>	Hours worked (thousands)
	A	B	C	D	E	F	G
<b>United States</b> .....	<b>1 240</b>	<b>11 686</b>	<b>17 545</b>	<b>11 005</b>	<b>3 925</b>	<b>11 427</b>	<b>4 406</b>
Alabama .....	6	82	152	76	35	84	38
Alaska .....	2	(D)	(D)	(D)	(D)	(D)	(D)
Arizona .....	41	(S)	(S)	(S)	(S)	(S)	(D)
Arkansas .....	10	13	(D)	(D)	(D)	*17	(D)
California .....	135	2 139	2 306	2 091	533	2 124	579
Colorado .....	36	138	184	86	37	102	50
Connecticut .....	20	213	417	214	103	216	107
Delaware .....	2	(D)	(D)	(D)	(D)	(D)	(D)
District of Columbia .....	-	-	-	-	-	-	-
Florida .....	41	241	408	197	80	187	82
Georgia .....	*14	166	255	153	56	169	64
Hawaii .....	*6	20	33	18	6	17	8
Idaho .....	2	(D)	(D)	(D)	(D)	(D)	(D)
Illinois .....	108	755	1 369	722	323	785	369
Indiana .....	7	39	(D)	43	*7	38	(D)
Iowa .....	*17	*103	64	*97	13	*100	15
Kansas .....	4	(D)	(D)	(D)	32	(D)	37
Kentucky .....	8	44	72	43	15	44	19
Louisiana .....	*15	107	154	117	38	98	40
Maine .....	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Maryland .....	41	660	858	616	204	721	237
Massachusetts .....	35	268	484	228	105	278	125
Michigan .....	77	521	951	433	170	442	213
Minnesota .....	6	*101	*189	54	21	*134	*68
Mississippi .....	(S)	*68	*130	*62	*33	*62	*27
Missouri .....	13	85	175	85	41	81	42
Montana .....	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Nebraska .....	4	(D)	(D)	(D)	(D)	(D)	(D)
Nevada .....	*13	*85	*160	*100	37	*112	*66
New Hampshire .....	*16	(S)	(S)	(S)	(S)	(S)	(S)
New Jersey .....	41	571	981	554	220	580	250
New Mexico .....	*11	*82	118	63	*24	57	*29
New York .....	110	1 270	1 871	1 183	402	1 266	477
North Carolina .....	*14	306	395	304	93	(D)	95
North Dakota .....	3	(D)	13	8	3	8	3
Ohio .....	30	526	766	557	188	504	190
Oklahoma .....	*26	100	147	93	40	80	33
Oregon .....	20	72	111	80	25	76	30
Pennsylvania .....	44	743	1 104	720	259	727	275
Rhode Island .....	11	71	122	69	26	73	31
South Carolina .....	*13	*50	*90	*59	*25	*52	*23
South Dakota .....	-	-	-	-	-	-	-
Tennessee .....	*18	132	270	123	*63	133	68
Texas .....	82	552	939	522	211	551	218
Utah .....	*29	139	227	*98	*57	101	58
Vermont .....	-	-	-	-	-	-	-
Virginia .....	20	353	671	361	151	342	154
Washington .....	22	196	217	180	47	157	43
West Virginia .....	3	36	63	(D)	(D)	(D)	(D)
Wisconsin .....	29	114	245	91	47	103	58
Wyoming .....	-	-	-	-	-	-	-

<sup>1</sup>Construction workers during pay periods including 12th of March, May, August, and November.



Payroll by State: 1987

July to September		October to December		Relative standard error of estimate (percent) for column—										Location of establishment
Construction workers¹	Hours worked (thousands)	Construction workers¹	Hours worked (thousands)											
H	I	J	K	B	C	D	E	F	G	H	I	J	K	
12 420	4 788	11 910	4 424	2	3	2	3	2	3	2	3	3	3	U.S.
76	36	92	42	(W)	2	(W)	2	(W)	2	(W)	2	(W)	2	AL
(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AK
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	AZ
19	(D)	(D)	4	(D)	(D)	(D)	(D)	44	(D)	39	(D)	(D)	(W)	AR
2 181	596	2 159	597	2	6	2	6	2	6	3	6	3	6	CA
138	50	228	46	28	34	35	39	33	37	27	30	37	32	CO
212	102	209	104	13	14	12	13	14	15	15	16	13	14	CT
(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	DE
-	-	-	-	-	-	-	-	-	-	-	-	-	-	DC
338	155	244	90	18	21	13	17	15	22	28	34	21	20	FL
171	64	174	69	7	5	5	5	9	8	9	5	4	4	GA
28	10	20	8	18	17	28	21	15	21	18	18	13	10	HI
(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	ID
797	344	716	332	6	7	8	11	9	8	7	7	7	6	IL
57	(D)	18	(D)	(W)	(D)	(W)	41	(W)	(D)	(W)	(D)	(W)	(D)	IN
*108	17	*110	17	47	12	46	9	45	14	49	13	48	11	IA
(D)	(D)	(D)	(D)	(D)	(D)	(D)	13	(D)	19	(D)	(D)	(D)	(D)	KS
43	17	46	20	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	KY
86	39	129	36	24	(W)	32	(W)	23	(W)	(W)	(W)	35	(W)	LA
(S)	(S)	*34	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	66	(S)	ME
700	223	603	193	13	9	9	9	12	9	16	10	14	10	MD
317	148	250	105	8	12	8	13	10	12	8	13	6	9	MA
615	275	595	292	9	13	9	13	9	14	9	15	9	13	MI
*156	*69	*58	*31	53	67	19	28	63	74	53	71	65	72	MN
*70	*33	*78	*35	53	51	49	47	49	49	54	54	58	56	MS
85	46	90	45	9	7	8	5	6	5	9	9	11	8	MO
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	MT
(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	NE
*80	*30	*51	26	50	42	45	35	53	52	56	41	44	34	NV
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	NH
640	300	510	209	(W)	7	(W)	6	(W)	6	(W)	11	(W)	6	NJ
*118	39	91	24	41	39	36	53	27	44	58	40	33	20	NM
1 331	503	1 299	487	3	6	3	6	3	6	3	5	2	6	NY
317	104	(D)	101	2	(W)	3	(W)	(D)	(W)	2	(W)	(D)	(W)	NC
8	3	(D)	3	(D)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(D)	(W)	ND
520	196	521	190	3	4	4	4	3	4	2	4	2	4	OH
114	32	113	41	22	13	18	11	23	17	23	7	26	19	OK
63	26	68	28	19	23	31	30	18	27	15	19	14	16	OR
798	295	727	274	5	4	4	4	5	4	5	4	6	4	PA
70	30	74	34	(W)	8	(W)	10	(W)	8	(W)	6	(W)	8	RI
*51	*23	38	*17	45	56	51	63	43	54	44	55	39	49	SC
-	-	-	-	-	-	-	-	-	-	-	-	-	-	SD
153	75	122	61	21	35	24	42	23	37	20	30	18	32	TN
569	249	564	*259	20	29	18	23	17	25	22	28	26	41	TX
134	48	*225	63	32	36	45	48	37	38	29	30	41	32	UT
-	-	-	-	-	-	-	-	-	-	-	-	-	-	VT
388	199	323	166	6	19	6	19	5	16	7	19	7	22	VA
216	62	233	64	18	14	17	13	19	16	17	12	19	15	WA
49	23	37	16	(W)	(W)	(D)	(D)	(D)	(D)	(W)	(W)	(W)	(W)	WV
106	74	158	65	21	29	25	33	26	32	28	33	15	24	WI
-	-	-	-	-	-	-	-	-	-	-	-	-	-	WY

**Table 10. Value of Construction Work for Establishments With Payroll by Location of Construction Work: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of construction work	1987					1982 construction receipts for work done in this State <sup>1</sup>	Percent change 1987 (col A) to 1982 (col F)	Relative standard error of estimate (percent) for column—		
	Value of construction work done in this State <sup>1</sup>	Construction work done by establishments located in this State		Construction work done by establishments not located in this State						
		Number	Value of construction work	Number	Value of construction work					
A	B	C	D	E	F	G	A	C	E	
United States -----	912 484	1 224	767 181	405	145 302	376 895	142.1	2	2	5
Alabama -----	5 475	6	4 437	*14	1 038	2 209	147.8	4	(W)	21
Alaska -----	2 658	2	(D)	*11	(D)	(D)	(D)	5	(D)	(D)
Arizona -----	8 000	41	(D)	1	(D)	(D)	(D)	29	(D)	(D)
Arkansas -----	468	*10	468	-	-	337	38.9	37	37	-
California -----	139 284	135	131 558	7	7 725	48 950	184.5	3	3	1
Colorado -----	6 640	36	(D)	1	(D)	561	1 083.6	18	(D)	(D)
Connecticut -----	21 178	19	(D)	2	(D)	7 288	190.6	20	(D)	(D)
Delaware -----	672	2	(D)	6	(D)	332	102.4	10	(D)	(D)
District of Columbia -----	(D)	-	-	12	(D)	3 536	(D)	(D)	-	(D)
Florida -----	15 777	39	14 791	*8	*986	6 694	135.7	14	14	57
Georgia -----	23 462	*14	12 664	8	10 798	2 169	981.7	5	9	3
Hawaii -----	2 636	*6	2 636	-	-	1 101	139.4	22	22	-
Idaho -----	1 007	2	(D)	2	(D)	58	1 636.2	(W)	(D)	(D)
Illinois -----	59 018	108	48 522	18	10 495	23 962	146.3	4	5	2
Indiana -----	31 533	7	1 499	23	30 034	4 575	589.2	11	(W)	12
Iowa -----	4 969	*17	4 850	*4	118	1 063	367.5	29	30	36
Kansas -----	(D)	4	(D)	9	550	1 979	(D)	(D)	(D)	21
Kentucky -----	3 545	6	1 837	5	1 708	2 891	22.6	(W)	(W)	(W)
Louisiana -----	9 500	*15	*7 938	*11	1 561	5 137	84.9	35	41	9
Maine -----	*1 479	*9	*1 413	*8	(S)	(D)	(D)	67	70	(S)
Maryland -----	30 909	40	21 801	12	*9 107	7 562	308.7	18	17	44
Massachusetts -----	40 716	35	32 213	*25	8 503	15 645	160.2	6	7	(W)
Michigan -----	59 890	77	55 613	8	4 277	19 836	201.9	4	5	9
Minnesota -----	*6 342	6	*6 195	*3	*146	4 622	37.2	51	53	58
Mississippi -----	3 754	*9	(D)	1	(D)	216	1 638.0	23	(D)	(D)
Missouri -----	16 659	13	12 097	9	4 562	5 842	185.2	4	5	2
Montana -----	(S)	*8	(D)	1	(D)	(D)	(D)	(S)	(D)	(D)
Nebraska -----	(D)	4	(D)	4	214	2 024	(D)	(D)	(D)	(W)
Nevada -----	4 546	*12	*4 050	12	496	(D)	(D)	40	45	(W)
New Hampshire -----	5 016	*16	4 929	*10	*87	617	713.0	30	30	60
New Jersey -----	46 088	41	43 607	13	2 481	29 441	56.5	1	(W)	16
New Mexico -----	*4 030	*11	(D)	2	(D)	*742	443.1	44	(D)	(D)
New York -----	103 966	110	96 561	19	7 405	64 583	61.0	2	2	2
North Carolina -----	17 930	*14	(D)	2	(D)	6 312	184.1	2	(D)	(D)
North Dakota -----	1 028	3	(D)	*3	(D)	-	-	19	(D)	(D)
Ohio -----	27 677	29	25 599	25	2 078	18 279	51.4	2	2	6
Oklahoma -----	8 142	26	(D)	1	(D)	4 680	74.0	18	(D)	(D)
Oregon -----	8 184	*18	(D)	2	(D)	2 318	253.1	20	(D)	(D)
Pennsylvania -----	42 575	43	36 919	24	5 656	20 934	103.4	4	4	7
Rhode Island -----	7 844	11	(D)	2	(D)	1 297	504.8	(W)	(D)	(D)
South Carolina -----	2 620	*13	1 757	3	863	2 309	13.5	20	30	(W)
South Dakota -----	(D)	-	-	2	(D)	(D)	(D)	(D)	-	(D)
Tennessee -----	*10 592	*18	*10 157	3	434	2 778	281.3	51	53	(W)
Texas -----	47 008	82	45 442	8	1 565	18 511	153.9	13	14	(W)
Utah -----	4 706	*29	(D)	2	(D)	2 500	88.2	24	(D)	(D)
Vermont -----	(D)	-	-	1	(D)	(D)	(D)	(D)	-	(D)
Virginia -----	18 907	15	13 949	16	4 957	7 290	159.4	11	8	33
Washington -----	19 753	22	16 625	9	3 128	7 737	155.3	3	3	10
West Virginia -----	4 217	3	(D)	7	(D)	5 914	-28.7	4	(D)	(D)
Wisconsin -----	5 513	29	4 348	*14	1 164	6 521	-15.5	17	19	38
Wyoming -----	(D)	-	-	2	(D)	*376	(D)	(D)	-	(D)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



Table 11. **Dollar Value of Business Done for Establishments With Payroll by Kind of Business Activity: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. Based on their primary business activity or combination of activities, establishments were classified into this specific industry. These establishments, however, may also be engaged in other kinds of business activities. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Primary and other kinds of business activities	Dollar value of business done <sup>1</sup>		Relative standard error of estimate (percent)	
	1987	1982	1987	1982
All kinds of business.....	958 834	402 993	2	1
Heavy construction.....	11 275	2 563	18	4
Excavation contractor, for buildings.....	26 620	13 482	5	2
Wrecking and demolition construction.....	823 343	335 842	2	1
Steel tank dismantling contractor.....	*5 229	(NA)	41	(NA)
Wrecking and demolition contractor.....	749 800	(NA)	1	(NA)
Concrete breaking contractor, highways and streets.....	68 313	(NA)	10	(NA)
Other construction activities.....	37 566	(S)	12	(S)
Rental of construction machinery or equipment to others.....	12 826	6 125	4	(W)
Retail trade.....	7 174	3 367	8	1
Other activities.....	25 935	(S)	3	(S)
Kind of business activity, n.s.k. ....	14 095	(S)	(W)	(S)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

**Table 12. Selected Industry Ratios for Establishments With Payroll: 1987 and 1982**

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	1987	1982	Relative standard error of estimate (percent) for 1987
<b>AVERAGE PER ESTABLISHMENT</b>			
Number of employees**-----	11.4	9.4	3
Number of construction workers-----	9.4	8.1	3
Number of all other employees-----	2.0	(NA)	4
Payroll, all employees----- \$1,000--	210.9	146.2	4
Payroll, construction workers----- do--	157.6	120.4	4
Payroll, other employees----- do--	53.2	25.8	4
Dollar value of business done----- do--	773.3	452.8	4
Value of construction work <sup>1</sup> ----- do--	735.9	423.5	4
Cost of materials, components, supplies, and fuels----- do--	88.1	59.6	4
Construction work subcontracted to others----- do--	54.7	40.7	7
Rental cost for machinery, equipment, and buildings----- do--	38.0	27.5	6
Capital expenditures, other than land----- do--	33.0	17.7	8
Gross book value of depreciable assets----- do--	220.9	189.1	5
<b>AVERAGE PER EMPLOYEE</b>			
Payroll, all employees----- do--	18.5	15.5	1
Dollar value of business done----- do--	68.0	48.0	1
Value added††----- do--	55.4	37.3	1
<b>AVERAGE PER CONSTRUCTION WORKER</b>			
Payroll, construction workers----- do--	16.7	14.9	1
Value of construction work <sup>1</sup> ----- do--	78.1	52.3	1
Construction worker hours-----	1 501.4	1 443.0	2
<b>AVERAGE PER OTHER EMPLOYEE</b>			
Payroll, other employees----- \$1,000--	27.3	(NA)	1
<b>AVERAGE PER DOLLAR VALUE OF CONSTRUCTION WORK<sup>1</sup></b>			
Payroll, all employees-----	.287	.345	1
Cost of materials, components, supplies, and fuels-----	.120	.141	3
Cost of construction work subcontracted to others-----	.074	.096	5
Rental cost for machinery, equipment, and buildings-----	.052	.065	4

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.



Table 13. Selected Industry Ratios for Establishments With Payroll by State: 1987

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Average number of employees** per establishment	Payroll per employee (\$1,000)	Construction worker hours per construction worker	Value of construction work per construction worker (\$1,000)	Average per dollar of value of construction work			
					Payroll, all employees	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings
United States -----	11.4	18.5	1 501.4	78.1	.287	.120	.074	.052
Alabama -----	15.8	(D)	1 853.7	54.1	(D)	.063	(D)	.042
Alaska -----	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Arizona -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Arkansas -----	(D)	(D)	(D)	36.0	(D)	(D)	*.130	(D)
California -----	19.1	14.7	1 078.1	61.8	.285	.115	.064	.058
Colorado -----	4.9	13.6	1 333.3	45.1	.387	.151	.095	*.068
Connecticut -----	13.5	26.8	1 957.7	103.3	.328	*.134	*.101	.012
Delaware -----	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
District of Columbia -----	-	-	-	-	-	-	-	-
Florida -----	7.2	18.9	1 692.9	74.1	.314	(D)	*.038	*.051
Georgia -----	*14.1	16.5	1 536.1	78.7	.250	.080	(D)	.053
Hawaii -----	*4.3	22.4	1 650.0	131.8	.221	(D)	.027	(D)
Idaho -----	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Illinois -----	8.3	28.3	1 813.2	107.9	.310	.071	.039	.026
Indiana -----	6.4	12.9	(D)	43.1	.346	.148	.043	*.028
Iowa -----	*7.2	*12.0	*621.4	*48.9	.291	*.187	.055	.028
Kansas -----	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Kentucky -----	6.5	13.8	1 636.4	66.2	.247	(D)	.051	.100
Louisiana -----	*8.9	14.1	1 439.3	76.7	.231	.155	.075	.034
Maine -----	(S)	(S)	(S)	(D)	(D)	(D)	(D)	(D)
Maryland -----	18.7	15.8	1 300.0	56.7	.324	.100	.138	.044
Massachusetts -----	9.3	22.0	1 806.0	122.4	.219	.113	.067	.061
Michigan -----	8.5	27.2	1 825.3	156.9	.217	.112	.073	.065
Minnesota -----	*19.5	*12.3	*1 871.3	*61.3	*.232	*.252	*.059	(S)
Mississippi -----	(S)	*18.5	*1 911.8	*42.1	.523	*.307	.070	*.107
Missouri -----	8.2	24.6	2 058.8	150.8	.206	.101	(D)	.069
Montana -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Nebraska -----	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Nevada -----	*7.5	*22.3	*1 882.4	*68.0	.374	.159	(D)	*.114
New Hampshire -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
New Jersey -----	16.7	21.8	1 718.0	83.8	.311	.123	.059	.034
New Mexico -----	*8.5	11.0	*1 439.0	*55.4	.226	(D)	.141	(S)
New York -----	13.9	24.9	1 473.2	87.2	.345	.121	.116	.037
North Carolina -----	*25.5	(D)	1 290.8	57.9	(D)	.196	.028	.059
North Dakota -----	(D)	(D)	(D)	(D)	.209	(D)	.145	(D)
Ohio -----	20.9	14.4	1 456.3	70.0	.246	.089	.068	.042
Oklahoma -----	*5.0	23.0	1 470.0	83.4	.361	.093	.009	.023
Oregon -----	4.4	19.6	1 541.7	98.8	.245	*.178	*.105	.027
Pennsylvania -----	20.2	14.7	1 485.9	55.3	.318	.155	.053	.064
Rhode Island -----	7.9	27.9	1 718.3	120.4	.284	.091	.059	.061
South Carolina -----	*4.2	(D)	*1 800.0	*35.1	(D)	(D)	.024	.037
South Dakota -----	-	-	-	-	-	-	-	-
Tennessee -----	*9.2	11.3	2 045.5	*77.0	*.184	*.119	(S)	(S)
Texas -----	8.4	16.7	1 701.1	84.7	.245	.150	.041	.033
Utah -----	*5.6	10.8	1 633.1	39.5	.318	.295	.112	.025
Vermont -----	-	-	-	-	-	-	-	-
Virginia -----	21.3	18.5	1 900.8	72.4	.307	.062	.054	.123
Washington -----	11.9	22.4	1 107.1	97.1	.309	(D)	.048	.058
West Virginia -----	14.0	(D)	1 750.0	(D)	(D)	(D)	(D)	(D)
Wisconsin -----	4.7	16.7	2 149.1	48.1	.414	*.158	.040	*.065
Wyoming -----	-	-	-	-	-	-	-	-





# APPENDIX A.

## Explanation of Terms

**Construction**—Is composed of three broad categories:

1. **New construction**—Includes the complete, original erection of structures and essential service facilities and the initial installation of integral equipment such as elevators, and plumbing, heating, and air-conditioning supplies and equipment.
2. **Additions, alterations or reconstruction**—Includes construction activity making structural changes to existing facilities. Generally, this type of activity is considered a capital investment in the property.
3. **Maintenance and repair**—Includes construction done for the purpose of upkeep of property rather than additional investment in the property.

Examples of the general distinction between maintenance and repair and reconstruction are provided here: roof repairs, including the replacement of shingles, gutters, etc., are classified under maintenance and repairs. A complete reroofing, however, is classified as reconstruction.

**Number of establishments in business during year**—Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments which were inactive or idle for the entire year were not included.

**Proprietors and working partners**—These data were not collected on the census report forms. The data shown are based on crediting each sole proprietorship establishment with one active proprietor and each partnership establishment with two working partners.

**All employees**—Comprise all full-time and part-time employees on the payrolls of construction establishments, who worked or received pay for any part of the pay period including the 12th of March, May, August, and November. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included, but proprietors and partners of unincorporated firms are not.

All employees is the sum of all employees during the pay periods including the 12th of March, May, August, and November, divided by 4.

**Construction workers**—Includes all workers up through the working foreman level directly engaged in construction operations, such as painters, carpenters, plumbers, and electricians. Included are journeymen, mechanics, apprentices, laborers, truck drivers and helpers, equipment

operators, and on-site record keepers and security guards. Supervisory employees above the working foreman level are excluded from this category but are included in the "other employees" category.

**Other employees**—Includes employees in executive, purchasing, accounting, personnel, professional, technical activities, and routine office functions. Also included are supervisory employees above the working foreman level.

**Construction worker hours**—Includes the total number of hours worked by construction workers. Construction worker hours were collected for each of the four quarters of 1987.

**Payroll**—Includes the gross earnings paid in the calendar year 1987 to all employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if an unincorporated concern.

**Employer costs for fringe benefits (supplemental labor costs)**—Represents expenditures made by the employer during 1987 for legally required and voluntary fringe benefit programs for employees.

**Legally required contributions**—Include Social Security contributions, unemployment compensation, workman's compensation, and State temporary disability payments.

**Voluntary payments**—Include life insurance premiums, pension plans, insurance premiums on hospital and medical plans, welfare plans, and union negotiated benefits.

Dollar value of business done comprises the following detail:

**Value of construction work done**—Includes all value of construction work done during 1987 for construction work performed by general contractors, special trades contractors, subcontractors, and land development and improvement work. Included is new construction, additions and alterations or reconstruction, and maintenance and repair construction work. Also included is the value of any construction work done by the reporting establishments for themselves.



Builders were instructed to include the value of buildings and other structures built or being built for sale in 1987 but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease.

Establishments engaged in the sale and installation of such construction components as plumbing, heating, and central air conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; and electrical and wiring supplies, elevators or escalators, etc., were instructed to include both the value for the installation and the receipts covering the price of the items installed.

Excluded was the cost of industrial and other specialized machinery and equipment which are not an integral part of a structure.

**Land receipts**—Includes receipts from the sale of land, whether held for sale or sold in connection with the sale of houses and other structures. It excludes the value of any improvements made to the land prior to the sale. (That value was to be included in the value of construction work done.)

**Other business receipts**—Includes business receipts not reported as value of construction work done or land receipts. The item includes business receipts from retail and wholesale trade, rental of equipment, manufacturing, transportation, legal service, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included here.

Excluded was the value of construction work done and receipts from other business operations in foreign countries and non-operating income such as interest and dividends.

**Net value of construction work**—Derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

**Value added**—Derived for each establishment, value added is equal to dollar value of business done, less costs for construction work subcontracted to others, and costs for materials, components, supplies and fuels. For SIC 6552 and SIC 1531, for which land receipts are significant, land receipts are also subtracted from dollar value of business done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

**Selected costs**—Represents the costs for materials, components, and supplies; costs for construction work subcontracted to others; and costs for selected power, fuels, and lubricants. Capital expenditures and rental costs for machinery, equipment, and structures are shown elsewhere.

Costs for materials, components, and supplies include:

- total costs to reporting establishments during 1987 for the purchase of all materials, components, and supplies, except fuels. (Supplies include expendable tools which are charged to current accounts.)
- freight and other direct charges should represent only amount paid after discounts, and the value of materials, components, and supplies obtained from other establishments of the respondent's company.
- costs for materials, components, and supplies used by the reporting establishments in the construction or reconstruction of buildings/structures for themselves which are chargeable to their fixed assets accounts, are included in this item as are costs for materials bought and resold to others.
- costs made for direct purchases of materials, components, and supplies even though the purchases were subsequently provided to subcontractors for their use.

Excluded from this item are:

- industrial and other specialized machinery and equipment, such as printing presses; computer systems; etc., which are not an integral part of a structure
- materials furnished to contractors by the owners of projects.

Costs for construction work subcontracted to others include:

- all costs during 1987 for construction work subcontracted out to other construction contractors.

Excluded from this item are:

- The costs to the reporting establishment for its purchases of materials, components, and supplies, provided to a subcontractor for his use. Such costs are reported under a separate category, "costs for materials, components, and supplies."
- costs for the rental of machinery or equipment.

Costs for selected power, fuels, and lubricants include:

- costs for fuels, lubricants, and electric energy purchased during the year from other companies, or received from other establishments of the company.
- costs for natural and manufactured gas, fuel oil, coal and coke products, etc.

**Rental costs for machinery, equipment, and buildings**—Includes all costs during 1987 for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, scaffolding, office space, and buildings. It



excludes costs for the rental of land. It also excludes costs under agreements which, in effect, are conditional sales contracts such as capital leases. Such costs are included in “capital expenditures.”

**Selected purchased services**—Includes all costs during 1987 for communication services purchased from other companies or from other establishments of the company. It also includes the cost of all repairs made to structures and equipment by outside companies, or from other establishments of the same company. It includes only the cost of that repair necessary to maintain property and equipment. It excludes the cost of improvements that increase the value of property, or the cost of adapting it for another use. Such costs are included in “capital expenditures”.

**Assets and depreciation**—Refers to the original cost of all fixed tangible assets such as buildings and other structures (offices, shops, etc.); stationary machinery (generators, shop equipment, etc.); mobile machinery (tractors, trucks, etc.); and other equipment (office furniture and fixtures, etc.). Not included are such items as current assets, depletable assets, intangible assets, and nondepreciable assets.

Data on assets and depreciation were collected separately for: (1) buildings and other structures, additions, and related facilities; and, (2) machinery and equipment.

Respondents were also asked to report capitalized expenditures, depreciation charges, and the gross value of assets sold, retired, scrapped, destroyed, etc., during 1987.

**Capital expenditures**—Refers to all costs actually incurred during 1987 which were or would be chargeable to the fixed assets accounts of the reporting establishments and which were of the type for which depreciation accounts are ordinarily maintained. These expenditures cover the acquisition, the construction, and the major alteration of the reporting establishment’s own buildings and other structures, whether purchased, constructed under contract, or constructed by the reporting establishment’s own forces; and the acquisition of machinery and equipment.

If leasing arrangements met the criteria set down by the Financial Accounting Standards Board (FASB) for a capital lease, respondents were instructed to report the original cost or market value of that equipment or building as a fixed asset and capital expenditure if acquired during 1987.

If capital expenditures were not recorded directly at the establishment level but handled centrally at the company or division level, respondents were requested to report appropriate estimates for the individual establishments.

**Inventories**—Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials which are owned by others, but held by the reporting establishment.

Builders who built on their own account for sale were requested to report work in progress and finished units not sold for buildings and other structures built for sale.

Inventories of multi-establishment companies were instructed to be reported by the establishment that is responsible for the inventories even if these inventories were held at a separate location.

**Ownership of construction projects**—This item shows the distribution of the value of construction work done by ownership of the project, that is, Government owned or privately owned. This classification relates to the ownership of the projects or work undertaken during the construction phase. Government owned projects are shown separately for Federal, and State and local governments.

**Value of construction work subcontracted in from others**—Includes the value of construction work during 1987 for work done by reporting establishments for other construction contractors or builders. Establishments were asked to report the approximate percent of total value of construction work accounted for by such work, and the percentages reported were applied to the reported value of construction work to develop a value for this item.

**Types of construction**—This item provides data by the types of buildings, structures, or other facilities being constructed or worked on by construction establishments in 1987. Respondents were instructed that each building, structure, or other facility should be classified in terms of its function. For example, a restaurant building was to be classified in the restaurant category whether it was designed as a commercial restaurant building or an auxiliary unit of an educational institution. If respondents worked on more than one type of building or structure in a multibuilding complex, they were instructed to report separately for each building or type of structure. If they worked on a building that had more than one purpose, i.e, office and residential, or commercial, they were to classify the building by major purpose.

In addition all respondents were requested to report the percentage of the value of construction work done for new construction, additions, alterations, or reconstruction, and maintenance and repair work for each of these types. See the definition of “Construction” for the meanings of these terms.

Building construction:

- **Single-family houses, detached**—Includes all residential buildings constructed for one family use.
- **Single-family houses, attached (include townhouses)**—Includes all residential buildings with two or more living quarters side by side, completely independent of one another, and separated by an unbroken wall from ground to roof.
- **Apartment buildings with two or more apartments**—Includes high-rise, low-rise, or any structures containing two or more housing units (excluding attached single-family houses and townhouses described above).
- **Hotels and motels**—Includes hotels, motels, and tourist cabins intended for transient accommodations.



- **Other residential buildings**—Includes dormitories, fraternity and sorority houses, nurses homes, and other nonhousekeeping residential structures.
- **Office buildings**—Includes all buildings which are used primarily for office space or for government administrative offices. Also included are banks or financial buildings which are three stories or more.
- **Other commercial buildings, such as stores, restaurants, and automobile service stations**—Includes all buildings which are intended for use primarily in the wholesale, retail, and service trades. For example, shopping centers, department stores, drug stores, restaurants, public garages, auto service stations, and one or two story bank or financial institutions.
- **Industrial buildings**—Includes all industrial buildings and plants which are used to house production and assembly activities. Heavy industrial facilities such as blast furnaces, petroleum refineries, chemical complexes, etc., are not included in this category, but under nonbuilding construction.
- **Warehouses**—Includes commercial warehouses, cold storage plants, grain elevators, mini-warehouses, and other such storage buildings.
- **Religious buildings**—Includes all buildings which are intended for religious services or functions, such as churches, synagogues, convents, monasteries, and seminaries.
- **Educational buildings**—Includes all buildings which are used directly in administrative and instructional activities, such as colleges, universities, elementary and secondary schools, correspondence, commercial, and trade schools. Libraries, museums, and art galleries, as well as laboratories which are not a part of a manufacturing establishment, are also included.
- **Hospitals and institutional buildings**—Includes all buildings which are intended to provide hospital and institutional care, such as clinics, infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.
- **Farm buildings, nonresidential**—Includes nonresidential farm buildings such as barns, poultry houses, implement sheds, and farm silos.
- **Amusement, social, and recreational buildings**—Includes buildings which are used primarily for entertainment, social and recreational activities, such as sports arenas, theaters, music halls, golf and country club buildings, skating rinks, bowling alleys, and indoor swimming pools.
- **Other nonresidential buildings**—Includes nonresidential buildings which are not classified elsewhere, such as fire stations, prisons, civic centers, bus and air passenger terminals and hangars.

#### Nonbuilding construction:

- **Highways, streets and related work, such as installation of guardrails, highway signs, etc.**—Includes streets, roads, alleys, sidewalks, curbs and gutters, culverts, right-of-way drainage, erosion control and lighting. Also includes earthwork protective structures when used in connection with road improvements.
- **Outdoor swimming pools**—Includes wading pools and reflecting pools.
- **Recreational facilities**—Includes athletic fields, golf courses, outdoor tennis courts, trails, and camps.
- **Bridges and elevated highways**—Includes viaducts and overpasses; roads, highways, railroads, and causeways built on structural supports.
- **Tunnels**—Includes highway, pedestrian, and railroad tunnels.
- **Railroad construction**—Includes the construction of railroad beds, tracks, freight yards, and signal towers.
- **Subway construction**—Includes urban mass transit subway systems above or below ground.
- **Dam and reservoir construction**—Includes hydroelectric, water supply, and flood control dams and reservoirs.
- **Marine construction**—Includes dredging, underwater rock removal, breakwaters, navigational channels, jetties, and locks.
- **Harbor and port facilities**—Includes docks, piers, and wharves.
- **Conservation and development construction**—Includes land reclamation, irrigation projects, drainage canals, levees, and flood control projects.
- **Power and communication transmission lines, towers, and related facilities**—Includes electric power lines, telephone and telegraph lines, fiber optic cables, cable television lines, television and radio towers, electric light and power facilities.
- **Power plants, except nuclear**—Includes electric and steam generating plants.
- **Power plants, nuclear**—Includes atomic energy plants, and nuclear reactors.
- **Sewers, sewerlines, and related facilities**—Includes sanitary and storm sewers, and related facilities.
- **Sewage treatment plants**—Includes sewage treatment and waste disposal plants.
- **Water mains and related facilities**—Includes water supply systems and related facilities.



- **Water treatment plants**—Includes water filtration and water softening plants.
- **Pipeline construction other than sewer or waterlines**—Includes pipelines for the transmission of gas, petroleum products, and liquefied gases.
- **Blast furnaces, petroleum refineries, chemical complexes, etc.**—Includes coke ovens, and mining appurtenances such as tipples and washeries.
- **Other nonbuilding construction**—Includes all types of nonbuilding construction, not included elsewhere.





## APPENDIX B.

### Standard Industrial Classification Titles for Industry Groups and Industries

SIC code	Industry titles	SIC code	Industry titles
<b>15</b>	<b>BUILDING CONSTRUCTION—GENERAL CONTRACTORS AND OPERATIVE BUILDERS</b>	<b>17</b>	<b>CONSTRUCTION—SPECIAL TRADE CONTRACTORS—Con.</b>
<b>152</b>	<b>General Building Contractors—Residential Buildings</b>	<b>173</b>	<b>Electrical Work Special Trade Contractors</b>
1521	General Contractors—Single-Family Houses	1731	Electrical Work Special Trade Contractors
1522	General Contractors—Residential Buildings, Other Than Single-Family	<b>174</b>	<b>Masonry, Stone Work Tile Setting, and Plastering Special Trade Contractors</b>
<b>153</b>	<b>Operative Builders</b>	1741	Masonry, Stone Setting, and Other Stone Work Special Trade Contractors
1531	Operative Builders	1742	Plastering, Drywall, Acoustical, and Insulation Work Special Trade Contractors
<b>154</b>	<b>General Building Contractors—Nonresidential Buildings</b>	1743	Terrazzo, Tile, Marble, and Mosaic Work Special Trade Contractors
1541	General Contractors—Industrial Buildings and Warehouses	<b>175</b>	<b>Carpentry and Floor Work Special Trade Contractors</b>
1542	General Contractors—Nonresidential Buildings, Other Than Industrial Buildings and Warehouses	1751	Carpentry Work Special Trade Contractors
<b>16</b>	<b>HEAVY CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION—CONTRACTORS</b>	1752	Floor Laying and Other Floor Work Special Trade Contractors, Not Elsewhere Classified
<b>161</b>	<b>Highway and Street Construction, Except Elevated Highways</b>	<b>176</b>	<b>Roofing, Siding, and Sheet Metal Work Special Trade Contractors</b>
1611	Highway and Street Construction Contractors, Except Elevated Highways	1761	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
<b>162</b>	<b>Heavy Construction, Except Highway and Street Construction</b>	<b>177</b>	<b>Concrete Work Special Trade Contractors</b>
1622	Bridge, Tunnel, and Elevated Highway Construction Contractors	1771	Concrete Work Special Trade Contractors
1623	Water, Sewer, Pipeline, and Communications and Powerline Construction	<b>178</b>	<b>Water Well Drilling Special Trade Contractors</b>
1629	Heavy Construction, Not Elsewhere Classified	1781	Water Well Drilling Special Trade Contractors
<b>17</b>	<b>CONSTRUCTION—SPECIAL TRADE CONTRACTORS</b>	<b>179</b>	<b>Miscellaneous Special Trade Contractors</b>
<b>171</b>	<b>Plumbing, Heating, and Air-Conditioning Special Trade Contractors</b>	1791	Structural Steel Erection Special Trade Contractors
1711	Plumbing, Heating, and Air-Conditioning Special Trade Contractors	1793	Glass and Glazing Work Special Trade Contractors
<b>172</b>	<b>Painting and Paper Hanging Special Trade Contractors</b>	1794	Excavation Work Special Trade Contractors
1721	Painting and Paper Hanging Special Trade Contractors	1795	Wrecking and Demolition Work Special Trade Contractors
		1796	Installation or Erection of Building Equipment, Special Trade Contractors, Not Elsewhere Classified
		1799	Special Trade Contractors, Not Elsewhere Classified
		<b>6552</b>	<b>LAND SUBDIVIDERS AND DEVELOPERS, EXCEPT CEMETERIES</b>





# **APPENDIX C.**

## **Geographic Divisions and States**

### **NEW ENGLAND STATES**

Connecticut  
Maine  
Massachusetts  
New Hampshire  
Rhode Island  
Vermont

### **MIDDLE ATLANTIC STATES**

New Jersey  
New York  
Pennsylvania

### **EAST NORTH CENTRAL STATES**

Illinois  
Indiana  
Michigan  
Ohio  
Wisconsin

### **WEST NORTH CENTRAL STATES**

Iowa  
Kansas  
Minnesota  
Missouri  
Nebraska  
North Dakota  
South Dakota

### **SOUTH ATLANTIC STATES**

Delaware  
District of Columbia  
Florida  
Georgia  
Maryland

### **SOUTH ATLANTIC STATES—Con.**

North Carolina  
South Carolina  
Virginia  
West Virginia

### **EAST SOUTH CENTRAL STATES**

Alabama  
Kentucky  
Mississippi  
Tennessee

### **WEST SOUTH CENTRAL STATES**

Arkansas  
Louisiana  
Oklahoma  
Texas

### **MOUNTAIN STATES**

Arizona  
Colorado  
Idaho  
Montana  
Nevada  
New Mexico  
Utah  
Wyoming

### **PACIFIC STATES**

Alaska  
California  
Hawaii  
Oregon  
Washington



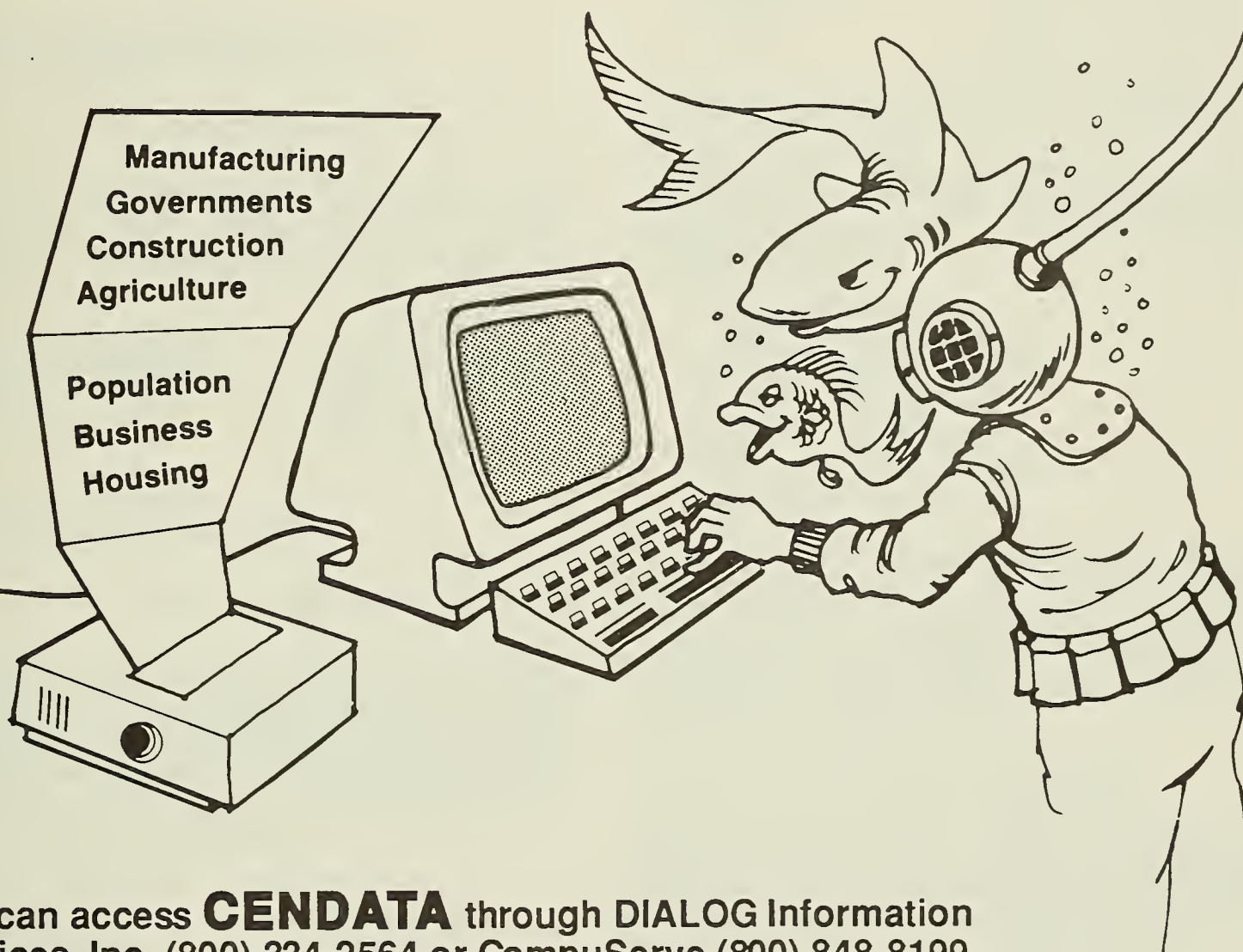


# WHAT'S YOUR LINE?

## It's ONLINE!

NOW whatever you do, wherever you go, we've got data for you.  
In more depth than ever—

**CENDATA™**—the Census Bureau's online system—instantly provides the facts you need for decisions in virtually every area. It covers everything from ingots to elections, from rental vacancies to retail sales, from median family income to milk cows in Minnesota.



You can access **CENDATA** through DIALOG Information Services, Inc. (800) 334-2564 or CompuServe (800) 848-8199. Or call the Census Bureau on (301) 763-2074 for more information.

Now key statistics are just a phone call away.





# PUBLICATION PROGRAM

## 1987 CENSUS OF CONSTRUCTION INDUSTRIES

The Census of Construction Industries is taken once every 5 years. The census covers all establishments engaged in construction, including:

- Building contractors
- Heavy construction contractors
- Special trade contractors (including plumbers, carpenters, painters, electricians)
- Land developers and subdividers

Data products in the Census of Construction Industries are issued in 4 publication series and in 3 other media:

- Printed reports [P]
- CD-ROM [C]
- Computer tape [T]
- Highlights online [+]

### Preliminary Industry Series (CC87-I-1(P) through CC87-I-28(P))

(Available November 1988 through May 1989) [P]

Twenty-seven separate industry reports and a United States summary report, providing national statistics for establishments with payroll. Statistics shown for 1987 include:

- Number of establishments
- Number of employees
- Payroll
- Hours worked
- Value of construction work done, by type of structure
- Selected operating costs

### Final Industry Series (CC87-I-1 through CC87-I-28)

(Available June 1989 through November 1989) [P] [C] [T] [+]

Twenty-seven separate industry reports and a United States summary report, providing statistics for the Nation and individual States on establishments with payroll. These reports update figures from the preliminary industry series (employment, payroll, value of construction, etc.) and provide measures of the following:

- Capital expenditures
- Inventories
- Industry profiles
- Assets
- Depreciation
- And much more

## Geographic Area Series (CC87-A-1 through CC87-A-10)

(Available January 1990 through March 1990) [P] [C] [T] [+]

Nine reports on the construction industries, representing each census geographic division, and a United States summary report. Regional reports provide detailed data for States and metropolitan statistical areas.

## Subject Report—Legal Form of Organization and Type of Operation (CC87-S-1)

(Available May 1990) [P]

One report providing selected national statistics for each industry by legal form of organization and type of operation. This report includes data for establishments with and without payroll. Data in this report include—

- Employment
- Payroll
- Value of construction work done
- Selected operating costs

## OTHER ECONOMIC CENSUSES REPORTS

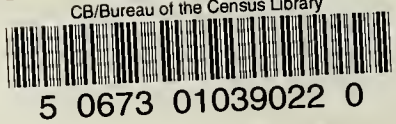
The Census of Construction Industries is part of the 1987 Economic Censuses. These are conducted at five-year intervals in years ending in 2 and 7 and consist of seven separate censuses:

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction

...plus several related programs: enterprise statistics; information on minority-owned and women-owned businesses; and the Census of Outlying Areas, including separate economic censuses of Puerto Rico and other outlying areas. The Census of Agriculture and Census of Governments are conducted separately.

## HOW TO ORDER DATA PRODUCTS

Order forms for the specific reports and other data products may be obtained from Data User Services Division, Customer Services (Publications), Bureau of the Census, Washington, DC 20233. If you have any questions, call Census Customer Services 1-(301)-763-4100.



CC87-I-24

Wrecking and Demolition Work Special Trade Contractors

1967 Census of

2